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for Volume XXIII - 1939  
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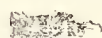
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# RECENT ADVANCES IN THE SCIENCE OF NUTRITION

## V. Factors Affecting the Vitamin C Contents of Foods

● Recent development of the chemical method for estimation of ascorbic acid (1) has permitted more thorough study of factors determining the vitamin C contents of foods. Circumspectly used, the 2, 6 dichlorophenol-indophenol or "indicator" titration method for vitamin C determination has proven an invaluable tool in this phase of research.

It is now apparent that the vitamin C content of food at the time of consumption is conditioned, first, by the initial ascorbic acid content of the food at the time of harvesting, and second, by the treatment to which the food is subjected between the time of harvesting and the time of consumption.

The initial vitamin C level in raw foods has been found to depend on factors such as variety, maturity and growing conditions (2). Under usual conditions of food crop production, such factors are only partially subject to human control. However, the factors influencing vitamin C in foods from harvesting until consumption are capable of closer regulation by man.

For example, it is known that long storage at improper temperatures adversely affects the initial ascorbic acid contents of foods. Even at refrigeration temperatures raw foods may lose substantial amounts of vitamin C during storage. Rough handling—which causes rupture of vegetable tissue—is also conducive to vitamin C loss especially when followed by improper storage. Certain metals will catalyze vitamin C destruction and even commonly used home-

cooking methods are attended by losses of this essential dietary factor (2).

Briefly, preservation of vitamin C in foods between harvesting and consumption is essentially a problem of preventing or reducing oxidation, either enzymatic or atmospheric. In addition, physical or solution losses must be minimized in preparation of the food for the table. It is pertinent to note that modern commercial canning procedures are well adapted to control both these chemical and physical losses of vitamin C (3).

The use of prime raw stock and quick transport to the cannery after harvesting; rapid inactivation of enzymes through heat treatment; and large scale automatic operations with minimal exposure to air, are basic practices common to all modern canning procedures. All serve to check oxidative losses of the initial ascorbic acid present in raw foods. In addition, during canning, the foods are cooked by the heat process while contained in the sealed can. The liquid within the can, therefore, retains vitamin C which has been removed from the food by solution.

Researches have shown that many commercially canned foods are to be listed among the most valuable contributors of vitamin C to the diet of the American people (2, 3, 4). Such findings demonstrate the effectiveness of modern commercial canning procedures in preservation to the highest practical degree of the initial vitamin C contents of foods.

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(1) 1932. Ztschr. f. Untersuch. d. Lebensmitt. 63, 1.

1933. J. Biol. Chem. 103, 687.

(2) 1938. J. Amer. Med. Assn. 111, 1290.

(3) 1932. Ind. Eng. Chem. 24, 650.

(4) 1938. J. Amer. Med. Assn. 110, 650.

1937. Bull. 19-L Nat'l. Canners Assn., Washington, D. C., 4th Ed.

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VOL. XXIII

EL PASO, TEXAS, JANUARY 1939

No. 1

## The Family Physician as a Public Health Agent

M. K. WYLDER

*Albuquerque, N. M.*

**PUBLIC HEALTH** is "the art and science of preventing disease, prolonging life and promoting physical and mental efficiency through organized community effort."

A community can through suitable expenditures buy a low death rate by investing in clean water and milk, by establishing diagnostic laboratories, by providing for the isolation and treatment of infected persons and by protecting infancy against early death.

However, the delegation of authority to public officials or the provision for the care of children by employees of city or state governments can hardly be expected to bring all of the benefits of medical science to every member of the community.

The laity must know the potential resources for health in order to take an intelligent part in its acquisition and development. Knowledge of disease is essentially for the physician, because he alone is authorized to engage in and offer services for its diagnosis and treatment.

Furthermore, the desire for health implies a willingness to share in efforts to obtain it and to participate in the creation of individual and common resources for its protection and advancement. For this end, the relevant facts of human life, the history of preventable diseases, of remediable and preventable defects and of the causes of premature death and the record of progress for extension of the span of life must be widely understood among both the laity and the doctors. Education then is one of the most important functions of the health department. The work of Chadwick and Simon brought in the first phase of the modern public health movement. This consists of the disposal of waste, the supplying of pure water, and the elimination of conditions under which insect carriers of disease breed.

In other words, public health first concerned itself with the control of the environment. The utilization of such measures has led to remarkable achievements: in all parts of the world wherever the appropriate procedure has been applied, cholera, plague, yellow fever, malaria and typhoid fever have been brought under subjection.

The second phase of the modern health move-

ment includes measures for the control of infections transmitted from one person to another. Here the bacteriologist rather than the engineer has assumed leadership. The discoveries of Pasteur and Koch in the field of bacteriology led to isolation and disinfection as measures for preventing the spread of disease. Later the use of vaccine and anti-sera immunizations in the prevention and treatment of diseases came into use, but the problem was and is yet to get people to take advantage of them.

The problems of infant mortality, tuberculosis and syphilis and the various other diseases have led to the development of a third phase of public health—that of personal hygiene. In the prevention of tuberculosis and the diseases of infancy, environmental control and bacteriology have important function, but satisfactory progress will not be made, under existing scientific knowledge, unless the care of the body receives attention. Tuberculous patients and those threatened with the disease must be taught the value of fresh air, rest and proper food. In the prevention of infant mortality, the mother must understand that her own health, together with pure milk and sufficient sleep for the baby are essential.

The prevention of tuberculosis and infant mortality appears to be largely a problem of giving information and teaching adults and children proper habits of living. Personal hygiene, therefore, is largely a matter of public health education—a new type of activity, which must be developed along with personal hygiene. Without education, results from other measures will be greatly limited; but with the wide dissemination of knowledge regarding disease and its prevention, the health of the people may be immeasurably improved.

During recent years the interest of public health officers has broadened and now they are beginning to concern themselves with the economic and sociological aspects of public health movement. The modern public health officer sees that poverty as well as ignorance is a contributing cause of infant mortality, that overwork and fatigue appear to enhance susceptibility to infections. In addition, there are specific diseases affecting only the workers in certain industries. It is becoming increas-

ingly evident, that the public health officer must take into consideration the economic and social causes of disease and cooperate with those whose chief concern is the elimination of adverse social and economic conditions.

In the early history of the United States practically all public health work was done by practicing physicians as part of their civic duty. The medical profession, individually and as an organized body, was a potent factor for, in fact often the only instrumental agency in the community for the protection of the public health.

Everyone familiar with the field of public health is now quite cognizant of the fact that public health administration, epidemiology, vital statistics, public health laboratory work, child hygiene activities, sanitary engineering, public health nursing, health education, industrial hygiene and the like are all special techniques that require special training and experience.

Wherever direct service is rendered, however, as in the case in all local health departments, the resident practicing physician should play a part of the greatest importance. No health officer can carry on satisfactory work without the cooperation and the whole hearted support of the organized medical profession of his community. No physician can practice modern medicine in an effective way without the aid of a well organized health department. The relationship between the health department and the medical profession and the general public should be one of mutual trust, confidence and respect.

#### PUBLIC HEALTH PROGRESS

We have come a long way from the health officer who merely tacked up a card when a contagious disease was reported and then took it down when the case was to be released, as compared to the present day organization. But we still have a long way to go. Many new systems are being tried out, one of them is to establish many clinics. I question the wisdom of this. In the first place the health officers are trained in public health work and most of them have never practiced medicine. I think it a mistake for any man to take up Public Health work until he has practiced medicine for five years. He would then know the physician's viewpoint and would also know much of the viewpoint of the public towards both the practice of medicine and the health department. A relationship that has come down through the ages and has stood the test of time with satisfaction and mutual benefit to both the patient and the physician. Patients who attend these clinics do not as a rule place much confidence in what they are told. Almost daily I have mothers come to me and ask if what they have been told at the well baby clinic is the right thing to do. The same thing is true of the syphilis clinic. The average individual following the custom of many centuries places more reliance on what he gets from his family doctor than from anyone else. Furthermore, the medical

profession in the most part feels that so many clinics encroach upon their work—and so they do. Many people who could afford to go to their family doctor will attend these clinics and in time it will encourage them to expect all medical service to be free of charge. In some places the Health Departments have been so active in building up these clinics that a crevice has opened between the Health Department and the Medical Profession, and in some places this has widened almost to an abyss. Let us not permit this to happen in New Mexico.

#### ROLE OF THE FAMILY PHYSICIAN

I have studied with a great deal of interest the work of Dr. Henry Vaughn, Health Commissioner of Detroit and it seems to me that he is solving this problem. His slogan is "That every family doctor's office shall be a center for preventative medicine." He reports on his work in the American Journal of Public Health of June 1935 and December 1936. He first requested that all doctors in Detroit who were willing to cooperate with the Health Department to register with him. 1100 of them did. His workers have a list of these doctors and when his doctors find a case needing medical care, they are sent to the doctor of their choice. All incipient cases of tuberculosis, all syphilis cases, all diphtheria immunization, smallpox vaccinations, pertussis and typhoid inoculations are sent to these cooperating doctors who have certain hours when they can care for these patients. The charge for immunizations is \$1.00 for those who are able to pay, and the city pays 50c for those unable to pay. Dr. Vaughn has an assistant who acts as Medical Coordinator. He visits these doctors and finds whether they are competent or not and assists them in any way he can. Over 75 percent of the people sent in paid their own bills and only 25 percent were paid by the city. It is true the city could have done them for less than 50c each, but for that small amount of money could the city have obtained the services of 1100 physicians and made them both Public Health and Preventative Medicine conscious? Furthermore, in Detroit 60 percent of the pre-school children have received their diphtheria inoculations and the diphtheria death rate in 1934 was .6 in 100,000. With programs such as these, the parents come to realize that preventative medicine is a purchasable commodity.

#### COMMENT

We are not going to get the results we should until we enlist every agency and make use of every means at our command. The appraisal form of the committee on administrative practices in tuberculosis case finding offers a perfect score if 20 percent of notifiable cases are incipient when first seen. Dr. Vaughn states that not over six of our major cities have reached that goal. Are we going to be satisfied when four out of five cases of tuberculosis are advanced when they first come to our attention? We could never stop a typhoid epidemic if we knew only of the dying cases.



In general I believe that practically all treatment cases could be handled better in a doctor's office. The physician's office should be a lookout station. We need more constructive and mutual thought and cooperation. My plea is that every practicing physician should be a deputy health officer.

The health department cannot attain its greatest usefulness without the aid of the medical profession, neither can the medical profession achieve their highest ambitions without the aid of the health department. As the old prophet Isaiah

said, "Let us sit down and reason together." Let us develop a spirit of mutual confidence and respect, and if we can do this we can do anything right here in New Mexico that can be done anywhere else in the world.

The good old Archbishop in St. Peters said, speaking to the Canons who were discussing building a wooden sidewalk around the cathedral, "Brethren if you but put your heads together, the thing is done."

221 W. Central Ave.

## Diaphragmatic Hernias of Various Types: Diagnosis and Surgical Treatment in 161 Cases\*

STUART W. HARRINGTON, M. D.

*Rochester Minnesota*

I appreciate the opportunity to present the subject of the diagnosis and treatment of various types of diaphragmatic hernia before your Society. I have selected this subject because I believe it is of more general interest than is usually thought. It is of interest to the clinician because the diagnosis is of first importance the symptoms are often complex, and because of the frequency with which the condition must be considered in differential diagnosis of upper abdominal and thoracic conditions. It is of interest to the roentgenologist, because the roentgenologic recognition of this condition is often the only means by which a definite diagnosis can be made clinically. The treatment of diaphragmatic hernia is of primary concern to the surgeon, for operative replacement of the herniated viscera, and repair of the abnormal opening in the diaphragm, is the only treatment that promises complete relief of symptoms.

Diaphragmatic hernia occurs more commonly than is generally thought as is shown by a review of the records of The Mayo Clinic. This revealed that, from 1908 to 1938, 467 cases of diaphragmatic hernia were recognized roentgenologically or at operation. Of the 467 patients, 227 were males and 240 females. The oldest patient was eighty-two years of age, the youngest seven months. The average age was 42.3 years and the average duration of symptoms was 6.2 years. The first case of diaphragmatic hernia which was of the esophageal hiatus type was found at operation in 1908. The first diaphragmatic hernia recognized roentgenologically was in 1911, and this hernia was of the traumatic type.

The more frequent recognition of diaphragmatic hernias in recent years is exemplified by the fact that a review of the cases from 1908 to 1926 shows that only thirty cases were diagnosed as such. Of these patients, fourteen were treated surgically, sixteen were not treated surgically. From 1926 to 1938, however, 437 cases of diaphragmatic hernia were recognized, 161 of the patients being treated

surgically (table 1), 276 not being treated surgically. This marked improvement in methods of recognition is exemplified on reviewing the cases encountered in 1937. During this year alone, ninety-nine cases were recognized and thirty of these patients were treated by radical operation. This study therefore, shows that more than fourteen times as many cases were recognized in the last twelve years as in the previous eighteen years. I believe that the condition is even more common than the present records indicate, for I have examined the diaphragm in the course of other abdominal operations and occasionally have found a small hernia that was not recognized clinically or roentgenologically before operation.

The actual incidence of diaphragmatic hernia, however, is probably no greater now than it was twenty years ago; at that time the condition was thought to be uncommon, and its recognition during life was rare. More frequent recognition of the condition in the last two decades has been attributable primarily to development of roentgenologic methods of diagnosis. The clinical study of proved cases has established a fairly definite symptomatology which has enabled the clinician to diagnose the condition or to suspect the presence of a hernia and to have a special roentgenologic examination made. I do not believe that the entire credit for the present, more frequent recognition of this condition is due the roentgenologist, but that he must share this credit with the clinician. A greater proportion of the responsibility for the establishment of the correct diagnosis must rest on the clinician, for he is first to come in contact with the patient, and the subsequent course of the examination and treatment depend on his interpretation of symptoms.

Recognition of a diaphragmatic hernia clinically is often difficult because of the complex symptoms, which often simulate those of other organic disease of the abdomen and thorax. This, I believe, is one of the most important clinical considerations of diaphragmatic hernia. It is particularly so when the physician encounters those types of hernia

\*Read before the meeting of the Arizona State Medical Association, Tucson, Arizona, April 21-23, 1938.

which are progressive, and the symptoms of which vary, depending on the degree and type of herniation, so that several clinical diagnoses can be made in the same case because of the changing symptomatology. The condition may be termed the "masquerader of the upper abdomen" because the symptoms so frequently simulate those of other disease. In a study of this series of 161 cases in which patients were treated surgically at the clinic from 1926 to 1938, it was found that an average of three previous erroneous clinical diagnoses had been made before the correct diagnosis was established. The most common erroneous diagnoses, in order of frequency, were cholecystitis, cholelithiasis, gastric ulcer, duodenal ulcer, hyperacidity, secondary anemia, cardiac disease, cancer of the cardia, stricture of the esophagus, appendicitis, and intestinal obstruction. This was of particular surgical significance because, in twenty-one of these cases, the patients had been operated on previously for other conditions, without complete relief of symptoms, and were completely relieved following repair of the hernia. Of these twenty-one patients, eleven had undergone cholecystectomy previously; four, cholecystostomy; three, appendicectomy; two, pyloroplasty, and one, gastro-enterostomy. Five of these patients, two who had duodenal ulcer and three who had gallstones, were partially relieved of symptoms but continued to have distress from an unrecognized esophageal hiatus hernia. This again emphasizes the importance of exploring the diaphragm in the course of all upper abdominal operations, particularly when the clinical syndrome has not been typical or the operative findings elsewhere than about the diaphragm do not adequately explain the patient's symptoms.

#### SURGICAL TREATMENT

The only treatment of diaphragmatic hernia which will prevent the occurrence of serious complications and assure relief of symptoms is the operative replacement of the herniated abdominal viscera and the repair of the abnormal opening in the diaphragm.

The methods and technic of the surgical procedures utilized in surgical treatment depend on the type, situation, and size of the defect in the structure of the diaphragmatic muscle, the kind and amount of abdominal viscera involved in the hernia, and whether or not the viscera are enclosed in the hernial sac. I shall first present the general surgical methods and then give the special technical considerations which are required in some types of hernia.

Conservative treatment may be considered in selected cases of esophageal hiatus hernia when only a small portion of the cardiac end of the stomach is involved in the hernia and then only when the symptoms are mild. If symptoms become progressively more severe, the possibility of serious complications is great, and I believe that treatment in all such cases should be surgical, unless radical operation is contraindicated because of the patient's general condition. Operation should be performed before severe incarceration, with consequent ob-

struction and traumatic lesions of the stomach have occurred. The operative risk is increased by gastric retention, and the technical difficulties are enhanced by fixation of the stomach to the diaphragm and to the hernial sac within the thorax.

All cases in which the colon or small bowel is involved in the hernia demand early operation because of the danger of intestinal obstruction. However, these cases are usually traumatic in origin and it is best not to operate until the acute symptoms caused by the primary injury have subsided, if the patient's condition will permit.

#### RADICAL SURGICAL REPAIR

*Anesthesia.* I prefer cyclopropane as the anesthetic agent, and the method of administration depends on the type of hernia which is present. In all cases in which there is no hernial sac and in which there is a direct communication between the abdominal and thoracic cavities, I prefer intratracheal administration of the anesthetic agent by means of a positive pressure machine. In cases in which there is a hernial sac, as in the esophageal hiatus type of hernia, the anesthetic agent can be administered by the closed-mask method.

*General technical considerations.* I have used both the abdominal and the thoracic approach in reduction and repair of these hernias. In two cases in which the thoracic approach was used it was necessary to resort to a combined thoracic and abdominal procedure in order to free the adherent abdominal viscera from the abdominal side of the diaphragm, if repair was to be accomplished without injury to abdominal viscera. In one of these cases postoperative empyema developed, necessitating drainage and resection of a rib before ultimate recovery could take place.

In the treatment of all hernias through the left hemidiaphragm, I prefer the abdominal approach through an oblique left rectus incision, starting at the ensiform cartilage and extending to the outer border of the rectus muscle. I believe there is less risk of thoracic complications when this approach is used. It is of particular advantage in cases of esophageal hernia, for the herniated stomach is usually confined in a sac in the posterior mediastinum and does not enter the true pleural cavity.

In hernias through the right hemidiaphragm, I prefer the thoracic approach because the large, right lobe of the liver makes the abnormal opening in the diaphragm inaccessible from the abdominal approach.

The technical difficulties of adequate exposure of the hernial openings through the left hemidiaphragm and the esophageal hiatus are often considerable because of fixation of the left lobe of the liver to the leaf of the diaphragm. The exposure of these hernial openings is greatly facilitated by cutting the suspensory ligament and retracting the left lobe of the liver to the right. This can be accomplished, when the left lobe is small, by folding it on itself, and when it is large, by retracting it forward into the wound. The spleen is often very adherent to the posterior part of the diaphragm and hernial openings but usually can be separated



from these structures by blunt dissection. It is retracted posteriorly by a properly constructed retractor. In some instances the spleen may be so traumatized by separating it from the hernial opening in the thoracic portion of the diaphragm that it is advisable to remove it. This occurred in three cases of this series.

*Hernia through the esophageal hiatus.* Hernias through the esophagus hiatus have a hernial sac. The attachment of the sac to the stomach must be separated and the sac either completely removed or permitted to retract into the posterior mediastinum. I believe that this is one of the most important technical considerations in the surgical treatment of these hernias.

After the sac has been removed, the enlarged esophageal hiatus is repaired by overlapping the margins of the opening. Closure is usually made to the left of the esophagus, but in some cases it is necessary to close, partially, both to the right and left of the esophagus. In a few instances the enlargement of the esophageal opening is posterior, extending to the spinal column and requiring the overlapping of the margins posterior to the esophagus. In such cases, the condition is often thought to be a herniation through the aortic opening, but usually extending over the aorta there is an imperfectly developed fibrous band which is the margin of the defective esophageal hiatus. The closure is usually made with living sutures of fascia lata which are removed from the thigh. The overlapped margins of the hernial opening are first stabilized with interrupted linen sutures. The fascia lata is then woven into the tissues by continuous suture and fixed in the tissues with interrupted linen sutures.

Before closure of the defective esophageal hiatus is completed around the lower part of the esophagus, it is important that a stomach tube of large caliber be placed through the esophagus into the stomach to aid in the reconstruction of the normal esophageal opening and to prevent constriction of the esophagus by a tight closure. A small portion of the esophageal wall is incorporated in the innermost margin of the closure by a suture of chromic catgut.

Not uncommonly in these cases there is an associated traumatic erosion in the herniated portion of the stomach, along the lesser curvature, close to the cardia, and this erosion is often adherent to the margins of the hernial opening. Great care should be used in replacing the stomach in the abdomen and in removing the sac from the stomach because of the danger of perforating this thinned-out portion. In cases in which the ulcerated portion is penetrated, it should be repaired immediately with continuous catgut and linen sutures. Perforation occurred in two cases of this series, and the perforated portion was immediately repaired and the patients had an uneventful convalescence.

The abdomen should always be thoroughly explored for any other lesion, particularly of the stomach or gallbladder. In some cases it may be

necessary to operate on other associated lesions, as occurred in two of my cases. In one of these cases it was necessary to perform gastric resection because of a perforating ulcer high on the lesser curvature, which was probably secondary to a traumatic erosion; in the second case the patient had a large, obstructing duodenal ulcer for which it was necessary to perform gastro-enterostomy. I do not believe it advisable to carry out any additional surgical procedure at the time of repairing the hernia unless it is imperative, but it is well to know if the patient has gallstones or any other lesion in the upper part of the abdomen which might account for subsequent symptoms.

*Congenital and traumatic hernias.* In treatment of congenital and traumatic hernias through the left hemidiaphragm the abdominal approach previously described is used. There is rarely, if ever, a hernial sac and the abdominal viscera are in direct contact with the thoracic viscera. In traumatic cases of long standing the abdominal viscera may extend to the apex of the thoracic cavity, and they are usually very adherent to both the abdominal and thoracic sides of the diaphragm and to the structures within the thorax. The adhesions to the margins of the opening and to the under surface of the diaphragm are often very marked and are separated first. The adhesions to the structures within the thoracic cavity are separated from below upward by approaching them through the hernial opening. By the abdominal approach this can be accomplished with little danger of injury to the abdominal or thoracic viscera, because the definite relationship of the herniated structures can be established. In many instances it is necessary to ligate, or otherwise to prevent bleeding from bands of adhesions high in the pleural cavity. This can be accomplished with the high-frequency coagulation cautery when it is difficult to tie with a ligature.

In cases in which there has been considerable loss of structure, or in cases in which the muscle has been torn from its attachment to the thoracic wall, the defect in the diaphragm should be repaired by fascia lata stabilized with linen sutures. I believe this to be the most satisfactory type of closure in all of these cases. When possible, it is advisable to obtain an overlapping closure of the margins of the opening for from 2 to 3 cm.

In all of these cases in which there has been a direct communication between the abdominal and thoracic cavities, every effort should be made to reestablish the negative pressure within the pleural cavity, by removing the air and expanding the lung before the opening in the diaphragm is closed completely. In some instances this cannot be accomplished until after the rent in the diaphragm has been closed. In some cases pneumothorax may be sufficient to push the mediastinum and heart to the opposite side and cause marked embarrassment of respiration and circulation. In these cases it is imperative that the mediastinum be stabilized in the midline immediately by aspirating the air from the pleural cavity, with a needle, until the pressure

is negative. In cases of congenital hernia in which the lung has been collapsed from birth, I do not think it is advisable to attempt forceful rapid expansion of the lung, as this may lead to hyperventilation as a result of forcing a large amount of the lung, which had never before been active, into function. These patients are best treated by aspirating the air from the pleural cavity and allowing the lung to expand gradually over a period of time. I think it advisable to take a roentgenogram on the operating table before the patient leaves the operating room, so as to determine the amount of pulmonary expansion.

Before closing the abdomen, the herniated viscera should be thoroughly explored to be certain that there has been no injury to a viscus or that there are no bands of adhesions which will interfere with the function of the abdominal viscera. In cases in which there has been considerable obstruction of the large bowel it may be necessary to perform appendicostomy or colostomy at the time of operation.

#### POSTOPERATIVE MANAGEMENT

All patients are placed in an oxygen cabinet or in an oxygen chamber immediately after the operation, and most patients are given fluids intravenously for the first two or three days. In all cases in which dilatation of the stomach was present at the time of operation intermittent or continuous gastric lavage is employed to keep the stomach empty for the first three to five days after operation. In many cases there is considerable shock during or immediately following the operation. If the blood pressure falls to less than 80 mm. of mercury, the patient should be given a transfusion of blood or of a solution of acacia intravenously. This is also advisable in all cases in which the hernia is associated with marked secondary anemia. The blood of every patient is grouped for transfusion before operation. In cases in which there has been herniation into the thoracic cavity of a large portion of the abdominal viscera over a long period of time, the replacement of these viscera in the abdomen causes a marked increase in the intra-abdominal pressure, which may lead to partial or complete obstruction. In cases of partial obstruction, the condition may be relieved by conservative measures, but in cases of complete obstruction, it may be necessary to perform enterostomy in order to reduce the intra-abdominal pressure and to relieve the obstruction.

In all cases in which the herniated viscera are removed from the pleural cavity, and in most cases in which the herniated viscera are removed from the posterior mediastinum, as in hernia through the esophageal hiatus, there is traumatic effusion in the pleural cavity. The treatment of this effusion depends on the amount of respiratory embarrassment associated with it. In most instances the effusion is slight; it will gradually become absorbed and special treatment is not required. In cases in which the effusion progresses to produce respiratory embarrassment, pleurocentesis, one or more times, is required. In some cases empyema may develop, requiring intercostal drainage, and

possibly later rib resection. In my experience empyema has never occurred in cases in which the hernia was repaired by the abdominal approach.

In some cases atelectasis may be caused by mucus in a bronchus. In most of such cases the condition will respond to conservative treatment. It may sometimes be necessary to remove the mucus by bronchoscopic aspiration.

#### OPERATIVE PROCEDURES EMPLOYED AND RESULTS IN 161 CASES

The operative procedures employed in the 161 cases in this series were as follows: In 140 cases the patients were treated by radical operation. The herniated abdominal viscera were replaced in the abdomen and the abnormal opening in the diaphragm was repaired. Of these 140 diaphragmatic hernias, 102 were of the esophageal hiatus type, thirty were traumatic, four were of the hiatus pleuro-peritonealis type, two were hernias through the foramen of Morgagni, and two were hernias through the left hemidiaphragm as a result of congenital absence of a portion of the diaphragm. In eighty-seven of these cases the diaphragm was either temporarily or permanently paralyzed preliminary to operative repair of the hernia. In two cases it was necessary to perform extrapleural thoracoplasty in addition to interruption of the phrenic nerve as a preliminary procedure to repair of the hernia. In 138 cases the abdominal approach was employed to repair the hernia; in the remaining two cases a combined thoracic and abdominal approach was employed. In eight cases it was necessary to perform other operative procedures at the time of repair of the hernia. In one case gastric resection (Polya type) was done for gastric ulcer at the lesser curvature of the stomach. In three cases posterior gastro-enterostomy was performed, in one case for high gastric ulcer involving the lower end of the esophagus and in two cases for a large duodenal ulcer causing almost complete obstruction of the pyloric end of the stomach. In three cases splenectomy was performed. In these cases the spleen was firmly adherent to the margins of the opening and to the thoracic diaphragm. Trauma associated with their removal from the hernial orifice and diaphragm necessitated their removal. One of the spleens that was removed was tuberculous. In one case, appendicostomy was performed at the time of operation because of obstruction and marked dilatation of the colon. In five cases moderate shortening of the esophagus was associated with the hernia. In four of these cases the diaphragm could be sutured entirely above the stomach after the diaphragmatic muscle had been paralyzed by phrenicotomy. In the fifth case a small portion of the cardia was incorporated in the closure of the hernial sac.

Twenty-one patients with esophageal hiatus types of hernia were treated conservatively. In these cases interruption of the left phrenic nerve was done as a palliative or therapeutic measure; in seven of these cases, it was the only procedure contemplated, as radical operation was contraindicated, and in the remaining fourteen cases the



procedure was in the nature of a therapeutic test. It may be necessary to perform radical repair of the hernia in some of these cases later to obtain complete relief of symptoms.

There were nine deaths following operation: six deaths occurred in cases of esophageal hiatus hernia, two in cases of traumatic hernia and one in a case of hernia through the pleuroperitoneal hiatus. Eight of the deaths were due to pulmonary congestion or pneumonia with respiratory and cardiac failure; one of these patients had cardiac disease and one cardiorenal disease prior to operation and one death was due to cerebral embolism.

I have recently reviewed the results obtained for the 152 patients who recovered from operation. Twenty-one of these patients were treated by interruption of the phrenic nerve, 131 underwent radical repair of the hernia. Of the twenty-one patients, all with the esophageal hiatus type of hernia, eleven were markedly relieved of symptoms, five were partially relieved of symptoms, and five obtained no benefit from the procedure. The latter two groups consisted of patients with indefinite symptoms or fairly large hernias in which radical operation was contraindicated at the time of examination. Some of these patients will require repair of hernia before relief of symptoms is obtained.

Of the 131 patients who recovered from radical repair of the hernia, four have developed a small recurrence, all of the esophageal hiatus type. These recurrences occurred from three months to five years after operation. In two cases the recurrences followed an influenzal type of pneumonia which was accompanied by severe attacks of coughing. In the other two cases no definite cause for the recurrence could be ascertained. These patients had gained considerable weight, which was probably a factor in the recurrence. In three cases the symptoms were mild and were relieved somewhat by conservative treatment. In the fourth case the symptoms have remained moderately severe and surgical repair will be required to relieve them. In 127 cases in which the hernia was repaired by operation there has been no recurrence of the hernia and the patients have been completely relieved of their symptoms. All patients have been examined roentgenologically every six months to a year after operation.

As noted previously in this paper, twenty-one of these patients had prior operations for the same complaint without relief of symptoms, but were completely relieved following repair of the hernia.

Mayo Clinic.

#### DATA CONCERNING SITUATION, ETIOLOGY, AND CONTENT OF HERNIA

Site of opening, type	Cases	Etiology	Cases	Content of hernia	Cases
Esophageal hiatus	113	Congenital: (history of trauma, 12)	113	Stomach (omentum) Stomach and colon	108 5
Short esophagus type	10	Congenital	10	Stomach only	10
Hiatus pleuro-peritonealis	4	Congenital	4	Colon and small bowel Colon, small bowel, stomach and spleen	3 1
Absence posterior fourth of left hemidiaphragm	2	Congenital	2	Stomach, colon, small bowel and spleen	2
Foramen Morgagni (substernal)	2	Congenital	2	Colon and omentum	2
Left hemidiaphragm	29	Trauma: (indirect injury, 20) (direct injury, 5) (inflammatory necrosis, 4)	29	Stomach only	5
				Stomach and colon	9
				Stomach, colon and small bowel	4
				Stomach, colon and spleen	2
				Stomach, colon, spleen and small bowel	6
				Stomach, colon, small bowel and liver	2
				Stomach, colon, small bowel, spleen and liver	1
Right hemidiaphragm	1	Trauma: (indirect injury)	1	Stomach, duodenum, colon, small bowel, liver, (gallbladder), and head of pancreas	1
Totals—	161		161		161

## Differential Diagnosis of Low Back Pain

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THE essential features of low back pain are:

1. The local pain.
2. The radiating pain.
3. The posture, attitude, limitation of back motion.

The posture on one hand and the local pain and the radiation on the other, are interrelated; the posture (limitation of motion) is a protective measure; when the pain disappears the malposture and the limitation of motion disappear.

Is the local pain and the radiating pain interdependent or do they have separate causes?

Read before the South Western Medical Association, Phoenix, Ariz., November 18, 1937.

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The question is that of allocating the source of local and radiating pain.

1. Can both be of intraspinal origin? (tumor, herniation of disc, etc.) Anatomy of intraspinal structure.

2. Can both be of radicular origin (arthritis, double radiation)? Anatomy of nerve roots. Here we must make a sharp distinction between radiating pain from a nerve trunk and local pain from injured soft tissue; the latter is definitely circumscribed to a small area of pain on pressure (trigger point), while the radiating pain is not circumscribed and does not show a trigger point. In arthritis of the intervertebral joints, pressure may be exerted upon the common trunk of the spinal nerves and radiation may therefore occur both into the anterior division, as sciatic radiation, and in the posterior division, as backache. But the latter is diffuse, not localized, and has no trigger point.

3. Is it likely that the radiation has its origin at the roots and the local pain independently in the soft tissues of the back (dual cause)? In the ordinary backache caused by mechanical factors, such as sprain, exertion, twists, etc., which strain the muscles, over-distend fascial and aponeurotic structures, impinge ligaments, etc., one should expect that the cause of pain lies in the injured tissues. All these tissues receive their sensory nerve supply from the primary posterior division of the spinal nerves.

Yet we are confronted with the radiating pain in the territories of the sciatic nerve. Because of this fact, authors and investigators have persistently looked for local causes for radiation: smallness of the intervertebral foramen, impingement of nerve roots by arthritic spurs, stretching and impingement by the fifth lumbar transverse process, intra-articular bands and adhesions. This would force us to assume a dual cause, one which is operative at the sensory nerve endings of the musculo-aponeurotic structures of the back, the other operative at the nerve roots; one in the territory of the posterior division, the other in that of the anterior. The former is proven by the presence of circumscribed trigger points; the latter, however, is entirely presumptive.

4. Can both local and radiated pain be of peripheral origin, i.e., originate in the soft structures of the back and cause radiation as a reflex symptom?

Now we find ourselves compelled to look to the pain phenomena arising locally in the soft structures, all supplied by the posterior division of the spinal nerves. The most striking sign of these injuries is the trigger point; but it is not the only one. The deeper structures are not immediately accessible to the palpating finger. It is here where the leg signs come into use. They transmit pain to the deeper structures of the back, namely, to the deep sacroiliac ligament, the iliolumbar ligaments, the sacrotuberous and sacrospinous ligaments, and also to the capsular structures of the sacrolumbar articulation and to a transverso-sacral articulation

if such be present in a case of sacralization of the fifth lumbar transverse process.

Now we must again look into the relation between the local back pain and the radiation. Unless we assume a dual cause for these we must admit that they are interdependent. Which is the cause and which is the effect? Since we cannot assume that any radiating pain could cause a localized pressure pain in an entirely different territory, there is no other way but to assume that the localized pain is the cause and the radiation the effect. Are there any analogies in the body where localized injuries or disease cause radiation in different territories? Yes, the tennis elbow is a small localized lesion at the origin of the extensor carpi radialis longior and brevior; it causes radiation all up and down the arm and forearm; in subdeltoid bursitis pain radiates all along the upper arm and the neck; etc.

So far we have used inductive reasoning, anatomy, analogies and logic; now for the definite experimental proof that the localized pain in the injured structures of the back coming from the nerve ending of the posterior primary division of spinal nerves, can and in a considerable number of cases does cause radiating pain in anterior division territories, by way of reflex.

This has been the subject of our recent investigations on some 450 cases of low back pain. The procedure is simple: We reasoned first that if we could find a trigger point, irritation of this point by inserted needle would aggravate the local pain; second, that if there was any connection between the local pain and the radiations, the latter would likewise have to be aggravated; third, if we injected a few cc. of a 1% procaine solution, the trigger pain would have to disappear; fourth, if this causal connection were real, the radiating pain would have to disappear with the disappearance of the trigger point pain; and fifth, with the disappearance of both pains, the leg signs also would have to disappear.

When all five requirements were met, we considered that the case reacted positive to the test and that the radiation was a reflex phenomenon elicited by the local lesion.

For this series only those cases were used which were seen in that fifteen months when the study began: 451 cases; excluding 142 arthritic or combined anterior and posterior division cases, we found deep ligamentous injuries in 114, myofasciitis in 104 (Albee), total 218; further eliminating cases in which there was no primary definite localization, for instance, postural cases, there remained 145 or about 30 per cent, which definitely showed the posterior division syndrome and in which we suspected that the radiation was a reflex and not a root compression phenomenon.

The positive responses, arranged according to primary sources of pain (pressure point) were as follows:

Posterior superior spine, lateral.....	47	74%
Posterior superior spine, medial.....	17	60%
Lumbo-sacral junction .....	8	61%



Transverso-sacral articulation .....	7	81%
Supra- and interspinous ligaments.....	13	93%
Lumbo-dorsal fascia .....	8	90%

Or, 100 out of 145 cases, average 70%, gave a positive response

This represents a minimum percentage. It is likely that some cases were missed because the involved area was not closely enough identified by the inserted needle. Sometimes a good deal of testing is needed before the exact point reveals itself by definite pain and aggravation of the radiation.

Although the question of treatment is beside the scope of this paper, we believe that by the establishment of a definite posterior division syndrome in low back pain certain therapeutic inferences may be drawn.

1. First it may be expected that the strains of the muscular aponeurotic structures would yield to conservative treatment of immobilization and physical therapy in similar manner as strain of these structures will do in other locations of the body. Of the 142 posterior division cases, 103 were treated satisfactorily by conservative methods. This is more than the number of positive responses, which shows that in some cases positive responses should have been obtained but were missed because of insufficient novocaine technique.

2. Of the remaining 39 cases which did not yield to conservative treatment, 9 cases of coccygodynia with low back pain are eliminated, leaving 30 cases of low back pain relegated to surgery.

The reasons why they did not yield to immobilization were threefold:

1. Persistence of aponeurotic tension. Here be-

long 10 cases of Ober's operation: 60% cures, 20% improvement. Three cases of stripping of posterior superior iliac spine: 100% cures.

2. Pinching or impingement of soft structures. Five cases of interspinous ligament impingement, with resection of spinous processes: 80% cures, 20% improvement.

3. Inability to immobilize. Palliative operation of internal fixation. Six cases of sacro-iliac and sacro-lumbar fusion: 67% cures, 33% improvement.

#### COMMENT

We believe that the allocation of the source of pain in low back disorders offers a distinct advantage for the management of such cases; this allocation is thoroughly feasible in the large contingent of cases in which the trouble involves structures supplied by the posterior division of spinal nerves, because the seat of pain is either accessible to the palpating finger or reveals itself by transmission through the leg test, or both. We have attempted to show by the novocaine test that both local pain and radiation are in causal connection and that radiation may be elicited by a local pain area as reflex symptoms without being caused by root compression. This does not by any means reject true root compression neuralgias as they occur in arthritis or in special pathological conditions of the lumbo-sacral level. We merely furnished proof that in the large group of posterior division syndrome such radiation is a reflex phenomenon, because it can be suppressed together with the local pain by the injection of novocaine.

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## X-ray in the Diagnosis of Early Pulmonary Tuberculosis

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PHYSICIANS for so long a period of time have accepted the fact that early diagnosis is the foundation on which the prevention and treatment of pulmonary tuberculosis rest that a reiteration of the statement is commonplace. Nevertheless the obvious fact that usually early diagnosis is not made is a tragedy that is seen daily by the phthisiologist. It is easy for the physician to excuse himself with the idea that the patient carries the blame in not presenting himself for examination in the early stages of the infection. The physician daily seeing patients with tuberculosis, taking their histories, and examining them knows that such an attitude in the medical profession is an attempt to shift a part of the responsibility. This may excuse some physicians in their own minds but cannot vindicate them when actual facts are faced.

The writer's experience has been that the too usual history is: The patient became aware that he was below his usual standard in health or endurance, he went to a physician who examined

him, assured him that there was nothing wrong except overwork, or run-down condition, or some specific irregularity in habits. The patient was then given a tonic and advice. Either or both may have been beneficial or at least harmless. The assurance, however, may have been a major tragedy in the patient's life in that it prevented him from persisting in searching for relief until a proper diagnosis was made. This is a moral and social responsibility which the physician cannot escape.

An experienced phthisiologist may examine a chest by inspection, palpation, percussion and auscultation, and find no pathological condition, when in reality there is a considerable area of active tuberculosis. Since those who specialize in the diagnosis of pulmonary tuberculosis state definitely that they do not find activity in a substantial number of those who have activity, obviously it is culpable egotism for the general practitioner to make a similar examination and assume the patient that he has no pulmonary involvement.

X-ray examination is indispensable in the early

diagnosis of pulmonary tuberculosis. A well made X-ray film will show abnormalities in most lungs if there is activity. A single well made film will give more information than a physical examination limited to palpation, percussion and auscultation made by one skilled in diagnosis of diseases of the chest. Sampson and Brown (1) state that, "Among 1337 consecutive cases at the Trudeau Sanatorium the physical signs in 32 patients were either absent or so slight that the diagnosis was established entirely or in large part from the study of the films." Webb (2) has said succinctly, that "Roentgenological examination is the only method available for detecting early tuberculosis."

In diagnosis Standards, edited by the National Tuberculosis Association (3) the following statement is made: "Radiological findings: Definite parenchymal changes are seen in nearly all instances of pulmonary tuberculosis. Absence of such changes demand other proof of the existence of the disease."

"Physical findings: Pulmonary tuberculosis may exist without the occurrence of demonstrable physical signs. Absence of physical signs does not mean, therefore, absence of pulmonary tuberculosis."

In October, 1927, the Metropolitan Life Insurance Company (4) attempted to rule out manifest pulmonary tuberculosis in new employees by including in all pre-employment examinations a fluoroscope examination followed by X-ray when indicated. Beginning in March 1928 the same method was added to the annual examination of all employees in an effort to detect pulmonary tuberculosis even in the absence of physical signs and symptoms. This intensive survey resulted in the discovery of a comparatively large number of cases. The continuation of this method has brought about a definite decrease in the tuberculosis morbidity rate, from 132 per 10,000 in 1928 to 43 in 1932. An even more interesting result has been the shift in the proportion of active cases diagnosed in the minimal and advanced stages. By 1932 the percentage of cases in the minimal stage had increased from 47 percent in 1928 to 76 percent, while the cases in the advanced stage had dropped from 53 percent to 24 percent. This shift has been further emphasized by the type of cases admitted to the sanatorium. At present many of the cases admitted have only X-ray findings with no other

symptoms and signs. Major Brooksher (5) stated that the value of roentgenological examination in pulmonary tuberculosis is generally accepted and the fact that no other known method will give so nearly an accurate index during life of the pathological process within the lung is also generally conceded. Sampson and Brown (6), after a study of 4,000 cases at the Trudeau Sanatorium, state that they think they might be able to defend the thesis that any patient who presented only peritruncial changes, or indeed no change, upon roentgenogram at the age of twenty-five years has very slight chance of developing active pulmonary tuberculosis later in life. The routine examination of large numbers of school children leads them to believe that definite roentgenological evidence of pulmonary tuberculosis exists in many cases for years before symptoms arise that focus the attention on the lungs; the symptoms, as is well known, often precede the appearance of physical signs. Definite changes characteristic of tuberculosis occur in the film long before definite evidence of abnormal physical signs can be detected.

If the internist has any reason to suspect chest pathology, X-ray of the part is as definitely indicated as X-ray of a limb in which the orthopedic surgeon suspects a fracture. The internist who neglects to take an X-ray is more likely to miss a pathological condition that will cause irreparable damage to the patient than the orthopedic surgeon. The public demands that the physician examining a possible fracture have an X-ray of the part. If the suspected part is the chest, the physician should not hide behind the lack of information of the public but should acknowledge the limitations of the stethoscope and avail himself of the far more accurate examination by X-ray.

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## Early Diagnosis and Radical Treatment of Gastric Carcinoma

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SINCE their first appearance the published reports of the Bureau of Census have shown that cancer of the stomach is causing more deaths in the United States each successive year. In the Vital

Statistics Special Reports issued April 5, 1938, the number of deaths from cancer of the stomach and duodenum in 1936 is recorded at 27,241. Of this number 16,210 were males, and 11,031 were females. The stomach is the commonest site for cancer. In my studies of cancer among the Indians I found that cancer of the stomach and duodenum ac-

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counted for the greatest number of cancer deaths. The conclusion is, therefore, that the locations of highest frequency are the same among the whites as among the Indians.

We must reduce this great mortality. The way to do this is to continue to educate the laity to refrain from self-treatment, and to seek competent medical advice when any digestive disturbance develops. We must urge the medical profession to record complete histories, to take careful physical, chemical, gastroscopic, fluoroscopic, and roentgenologic examinations in all cases that present any suspicious symptoms of cancer of the stomach. Both the laity and the physician must realize that cancer is the most common organic disease of the stomach. Approximately 20 percent of all patients who complain of digestive disturbance, who suffer from an organic lesion, have a cancer of the stomach. Therefore, we must become "cancer-minded." Persistent dyspeptic discomfort in the case of a patient more than thirty years of age should lead the physician to suspect the possibility of a malignant gastric lesion until such a possibility has been completely eliminated. He should never wait for the usual symptoms of cancer of the stomach to appear, for the lesion may be silent until it is well advanced. I recently had a patient with extensive involvement of the lesser curvature and the pyloric third of the stomach; yet there had been no evidence of its presence until symptoms of obstruction developed.

Again cancer may be easily confused with stomach ulcer. Every gastric ulcer which fails to respond satisfactorily to proper treatment should be suspected of malignancy until it is proved otherwise. The differential diagnosis between benign and malignant lesions of the stomach are not always easy nor accurate. A malignant gastric lesion may simulate benign ones and improve under medical treatment; therefore, repeated roentgenologic examinations must be made at regular intervals, until one is convinced that a malignancy does or does not exist. If one has a case with persistent strong clinical indications of cancer of the stomach, yet with negative x-ray findings, an exploration is advisable. The risk of exploration is slight, whereas that of cancer is great without the investigation. Under such circumstances I would much prefer the exploration to confirm or disprove the suspicion.

While the x-ray affords the greatest aid in localizing lesions in the stomach, and the skilled roentgenologist can visualize organic lesions in approximately 95 percent of the cases; yet it is still true that in approximately 20 percent of these a definite opinion as to the exact nature of the lesion cannot be well determined. For example, some cases that appear inoperable upon roentgenologic examination are often found to be operable at exploration. This failure of the x-ray to show 5 percent of the cases and to reveal the true condition of the stomach in approximately 20 percent of the

cases, makes one hesitate to accept this means of diagnosis without reservation.

Again there are many lesions of the stomach in which the correct diagnosis may be established only through an exploration, and through complete microscopic study. Consequently other means of diagnosis must not be persisted in too long as procrastination in cases of cancer of the stomach leads to an eventual prognosis of an inoperable lesion. In approximately 50 percent of the patients the disease is clinically inoperable at the time the diagnosis is established. Only about 10 percent of the patients with cancer of the stomach may expect to be cured.

The duration of the symptoms plays no perceptible role in the possibility of the complete removal of the lesion. It is after all only the reaction of the body to the disease and the grade of malignancy that determines whether the cancer gives rise to metastasis early or late. Five year survivals are more frequent among those cases in which gastric symptoms were of longer duration. The nearer the lesion is to the pylorus or the fundus of the stomach, the more difficult it is to cure.

Cancer of the stomach is a curable disease if it can, when still closely confined as an intragastric lesion, be recognized early and treated promptly. Surgery offers the only satisfactory means of treatment. The operability of the malignant lesion of the stomach cannot with any degree of certainty be determined before exploration. It is not unusual to find a case that appeared hopeless upon careful pre-operative study, prove to be removable upon exploration of the lesion.

The surgeon who treats cancer of the stomach must be willing to accept many patients for exploration. He must also be willing to perform as extensive a resection as is necessary, provided the general condition does not contraindicate it, and provided irremovable metastasis cannot be demonstrated. In particular it is most important to determine whether or not metastasis is present in distant parts such as the supraclavicular lymph nodes and the peritoneum of the rectal shelf. Rectal examination of patients with cancer of the stomach should never be omitted. The early and widespread dissemination of the cancer cells are the result of the peristaltic movements of the stomach. This dissemination should be looked for before any operation is considered. The more common adjacent sites of metastasis are the liver and the region of the umbilicus. Though the curability of cancer of the stomach depends upon many factors, the most important is lymphatic involvement.

In those patients who present evidence of extensive cancer of the stomach, who are not too advanced in years, who are without secondary effects such as extreme anemia, emaciation, metastasis to proximal and distant parts, and fixation of the palpable mass, exploration is advisable. A large movable lesion is usually of the colloid type with sharply defined margins, it is more likely to be re-



movable than the nonpalpable or small lesion. The fixed masses whether large or small are not favorable for operation. Since cancer of the stomach is a ruthless disease, it should be treated by the most radical operation—an operation designed to remove every vestige of the disease from the stomach, to eliminate lymph channels and glands. If you dissect up along the lesser curvature, high upon the gastrohepatic omentum, and along the greater curvature, carrying the dissection down to the colon, you have done all that is possible in the dissection of the lymph nodes. Removal of single nodules in the liver is also justifiable. Likewise, look for peritoneal implants, their presence means incurability and contradicts any attempted palliation by surgical means.

Scrupulous attention to the preoperative treatment of cancer of the stomach will markedly lower the mortality following the operation. The operative mortality rate should not exceed 10 percent; yet the mortality of the resection itself depends entirely on its extent and on the patient's ability to stand the procedure. An average of 20 percent of patients should be alive and in good health three years after the operation. The results of partial gastrectomy for strictly operable cancer of the stomach without glandular involvement or extension beyond its original site have also been most gratifying. However, this is seldom justified in the presence of metastasis in the liver or elsewhere in the abdomen beyond the removable regional lymph nodes unless it be done to relieve obstruction or pain incident to a large excavating mass in the stomach. Nevertheless radical surgery offers the only chance for extension of life with more comfort, even in those cases where there is some evidence of metastasis. In my opinion when a degree of gastric digestive comfort and a prolongation of life can reasonably be expected, the operation is justifiable.

The Billroth I operation as modified by Horsley has an advantage in cases of small cancers in the antrum or in elderly persons who are not good risks and in whom the duodenum is unusually mobile and of large caliber. The Billroth II, or some of its various modifications, is still considered technically adequate to meet the indications in the average case. Where an extensive resection of the stomach is necessary, I prefer the Polya or the Balfour technic.

It is sometimes advisable to remove the entire stomach when the lesion is not local, when the growth has infiltrated throughout the walls of the stomach without apparent involvement of adjacent structure or lymph nodes; in particular, the linitis plastica type (the so-called "leather bottle") especially in relatively young persons whose general condition will permit of extensive operation is of this nature. With the presence of extragastric metastasis the operation is contraindicated.

Exclusion of the growth is by far the most effective

method of bringing about palliation and it is to be advocated. I hesitate to perform a gastro-enterostomy for cancer of the stomach; yet many of the patients are made quite comfortable in this way. The average length of life after the operation is six months. Palliative operative procedures for the highly malignant fulminating type of lesion seldom offer much relief and usually fail to prolong life. I have been surprised however, at the degree of digestive comfort, the improved mental and physical state, and the ability of the patient to carry on his usual vocation following palliative operations for cancer of the stomach. These patients can enjoy their lives, and they are thankful for the results obtained. The majority die of cancer of the liver, but it is a painless death.

The post-operative care of the patient should begin with a transfusion as soon as he has been returned to bed. Adequate intravenous administration of glucose and normal saline solutions must be continued until fluids can be taken through the stomach. For the first 48 hours the stomach should be kept clean by means of continuous suction-siphonage. No food should be given by mouth during the first four or five days; after this time careful feeding may be instituted. When the patient leaves the hospital, he should still be returned to the care of his medical advisor for more or less constant observation over a long period. He should direct the patient's activities; instruct him as to his diet, and make careful complete examinations at regular intervals. Only by so doing will the best results be obtained in the treatment of cancer of the stomach.

### CONCLUSIONS

The stomach is the commonest site for cancer and is causing more deaths in the United States each successive year.

More than 20 percent of all patients who complain of digestive disturbance, who suffer from an organic lesion, have a cancer of the stomach.

Cancer may be easily confused with stomach ulcer and their differential diagnosis are not always easy nor accurate.

The x-ray affords the greatest aid in localizing lesions of the stomach, and should be resorted to early and repeated frequently in suspected cases; yet it may fail to help determine the diagnosis in approximately 25 per cent of the cases.

Exploration and complete microscopic study of the lesion may be necessary to establish the diagnosis of cancer of the stomach, and should be resorted to without delay in questionable cases.

The reaction of the body to the disease and the grade of malignancy determine whether cancer of the stomach gives rise to metastasis early or late, and it is most important to determine whether or not irremovable metastasis are demonstrable before any operative procedure is undertaken.

Cancer of the stomach is a ruthless disease and should be treated by the most radical operation

necessary to remove every vestige of the disease from the body.

The results of partial or complete gastrectomy are gratifying when the lesion has not extended beyond the stomach and the removable lymph nodes.

Scrupulous attention should be given to the pre-operative and post-operative care in order to lower the mortality following the operation.

The operative mortality rate of cancer of the stomach should not exceed 10 percent, and 20 percent of the patients who have had an operation

with hopes of a cure should be alive and in good health three years after the operation.

When a degree of gastric digestive comfort and a prolongation of life can reasonably be expected, palliative operations are justifiable. Partial gastrectomy may be indicated but exclusion of the growth is by far the most effective method of bringing about palliation. These patients enjoy living and usually die a painless death. The average duration of life after palliative operations is from six months to three years.

15 E. Monroe St.

## Syphilitic Endocarditis of the Mitral Valve

### Case Report

W. W. WAITE, M. D.

El Paso

THIS is an extremely rare condition—I have been able to find only three cases reported in the literature with postmortem findings. So far I have had only abstracts of these and cannot give the full data. No one has offered a reason as to why this condition is so rare when syphilis of the circulating system as a whole is quite common and often affects the aortic valve but does not produce the vegetative endocarditis here, but rather a contraction of the cuss.

Authors do not agree as to how well the segment of the mitral valve are supplied with blood vessels, but it would seem from the reports presented that in a certain number of cases there is a definite blood supply, more common in infants and children than in adults. Gross states that when fetal structures persist, the blood supply to the leaflets of the mitral valve are also more likely to persist.

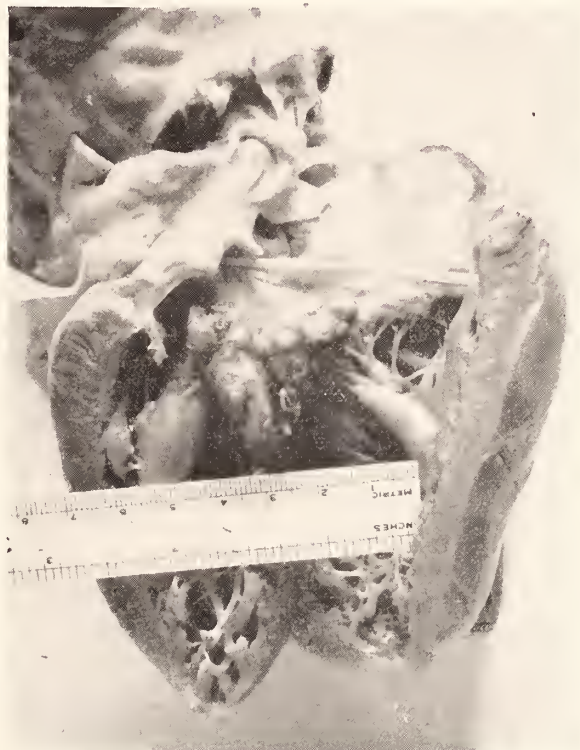
Ordinary vegetative endocarditis is more common in children and young adults than in older people. Some authors hold that this is due to a thrombus in one of the leaflets of the vessel and from this the vegetations grow. Other authors hold that infected material sticks to the edge of the valve due to pressure and that it is in this way the condition starts. If this is the most likely condition, then vegetative endocarditis ought to be as frequent in adults as it is in young people, but it is not.

Syphilitic lesions as a rule are located where there is a good blood supply and in some way seem to be connected directly with the blood supply. In the present case, there was a large foramen of ovale, which is a fetal structure, and this persisted and with it we might expect blood vessels in the mitral valve.

### CASE HISTORY

This man, 52 years of age, had syphilis for 20

years and was treated by several physicians in El Paso. For the last six months he had general paresis but no paralysis. Some weeks before death, he developed a definite heart lesion but this was not definitely studied as to its nature.



*Post-mortem findings:* The body is that of a slender poorly nourished old man. The abdomen showed no noticeable gross lesions.

The heart on removal was considerably enlarged, especially the auricles, which were greatly dilated.

On opening the heart, the valves on the right side were normal.



On opening the left auricle, large vegetations were seen on the segments of the mitral valve, especially on the anterior segment.

On further examination it was found that these vegetations were almost wholly on the anterior segment but there was a slight amount on the posterior segment. These vegetations were made up of thick white growth with long delicate finger-like process. There were two vegetations on the posterior segment.

The largest vegetation measured 30 mm at the base and projected out about 20 mm. Near the base it was perforated with a small opening.

Before the heart was opened the whole mass projected into the auricle. The foramen of ovale was patent and admitted the little finger.

The heart with aorta attached weighed 600 grams.

The descending aorta measured 120 mm in cir-

cumference, was quite thinned out in areas and somewhat scarred. There were also some patches of sclerosis.

The kidneys weighed 150 grams each and were badly scarred.

Microscopic examination of the aorta showed some thickening of the adventitia and slight round-cell deposits about the vasa vasorum.

Microscopic examination of the vegetation showed it to be made up mainly of necrotic tissue. At the junction of the healthy tissue, there was a delicate myxomatous structure surrounded by a denser area of round-cells and epithelial cells. In some places there were giant cells. There were also round-cell accumulations, forming small nodules.

**DIAGNOSIS:** Syphilitic endocarditis—gummata of the mitral valve—mild syphilitic aortitis.

Roberts-Banner Bldg.

## Diabetic Manifestations in Ophthalmology

WM. JEWEL SMITH, M. D.

Phoenix, Arizona

**T**HE interrelationship between ophthalmology and internal medicine is very often manifested in several systemic diseases. One of the most frequent of these is diabetes mellitus. It is the purpose of this paper to review some of the more common lesions and also to report a case which I have recently seen that illustrates this relationship.

One of the more rare manifestations is that of Lipaemia Retinalis. This is a condition in which the fat content of the blood is increased. In order to be demonstrated the fat content must reach 5% before it becomes visible in the retinal vessels. They appear as if filled with milk and there may be a pinkish white tone to the whole eye ground. No histological lesions are found as the condition is in the blood. Foster Moore of London states that he has not seen such a case since the introduction of insulin.

Retro-bulbar neuritis, an inflammation of the extra-ocular portion of the optic nerve is caused by toxins both exogenous and endogenous. The diabetic is much more susceptible to alcohol and tobacco as toxins of the exogenous variety. The toxin of diabetes itself however, may cause this condition. As such it is usually found in older people, is characterized by a very small central scotomata and usually responds to treatment. If the condition is allowed to progress there may be some resulting atrophy.

Iritis may occur independently of any surgical procedure on the eye or may follow same. As such it demonstrates the lack of resistance to infection which diabetics show. There are more often changes in the pigment cells on the posterior surface of the iris. They become swollen, thus throwing the iris into more prominent folds. The cells often be-

come detached and may be found on the anterior surface of the lens.

The question of cataract is often met with and the vast majority of so-called diabetic cataracts are nothing more than ordinary senile cataracts developing in patients with diabetes. The true diabetic cataract is found in young persons, is bilateral and develops rapidly. It is characterized by flaky lesions which develop faster in the posterior layers of the cortex. It is true that the senile cataracts tend to develop earlier in diabetics than in non-diabetics.

Likewise retinitis is somewhat similar in that in the vast majority of cases in which it develops there is usually associated a raised blood pressure, vascular disease and albumen in the urine. Often it is difficult to state from ophthalmoscopic appearances whether a given case of retinitis is due to diabetes, nephritis or arteriosclerosis. Wolfe states there are certain characteristics of a true diabetic retinitis. First, it rarely occurs in a young subject; second, the patches of retinal exudate tend to have sharp-cut edges, they are distributed in an irregular manner, and sometimes form an irregular ring around the macular region; third, small dark round retinal hemorrhages are very suggestive of diabetes. As such they lie in the deeper layers of the retina. Other types of hemorrhage may be present and all of the retinal layers may be infiltrated or the hemorrhage may be subhyaloid or may occur into the vitreous; fourth, soft-edged cotton wool patches characteristic of renal disease are not present in diabetes; retinal edema is not marked and thus retinal detachment does not result; fifth, a star figure is uncommon.

In regard to prognosis, Nettleship found that of forty-eight patients with diabetic retinitis, 60% lived for more than two years. Thus it is an indi-



cation of some gravity but is not as serious a sign as retinitis in renal disease.

Hemorrhage is more apt to follow surgery of the eye in a diabetic than in a non-diabetic.

Changes in refraction are common. The exact mechanism for this is not known, but is thought to be due to an alteration of the osmotic pressure in the aqueous. This in turn causes an altered index of refraction of the lens cortex. There is no regular rule and it is somewhat confusing because it may cause myopia in some cases while in others hyperopia may develop. It may appear shortly after the beginning of insulin therapy.

#### CASE REPORT

Mr. C. D. K., aged 56, consulted me May 31, 1938, with the complaint that his vision was not quite as distinct as it had been a short time previously. Examination of the eyes did not disclose any reason for the complaint. On checking the refraction, I found he had 20/15 vision in the right eye with a plus .50 sph with plus .75 ax 180 degrees, and 20/15 vision in the left eye with a .75 sph with a plus .25 ax 180 degrees. There was a add of plus 1.75 in the lower segment for near. This was the correction he was already wearing. Examination of the fitting of the glasses showed one lens considerably lower than the other, due to a maladjustment of the nose piece. This was corrected and resulted in an elimination of the trouble.

He consulted me again on June 15, 1938, approximately two weeks later, with the complaint that his vision was blurred for distance but when he tilted his head back and looked through the bifocal segment he could see well at a distance. This was a most interesting phenomenon as I had seen him only two weeks previously, and therefore had a check of his vision at that time, with and without his correction. The eye did not disclose any cause for the change, but on refracting I found that now he could see 20/15 in the right eye with a plus 1.75 sph with plus .62 cy ax 175 and 20/15 in the left eye with a plus 2.00 sph with plus .25 cy ax 165. In other words, he was exactly 1.25 D more hyperopic than when seen two weeks previously. After some questioning I found that he had consulted his physician who on June 10 had found a blood sugar of 360 milligrams per 100 c.c. after twenty-four hours of starvation diet. He was started on insulin and by June 12 the urine was sugar free. I saw him again June 20, 1938, at which time the hyperopia has increased approximately 1.75 D. On June 27, 1938, it had decreased to a plus 1.25 D difference from the original findings. The blood sugar at this time had dropped to 153 and he was feeling much better generally. On July 7 and July 15 he was checked again. On the latter date the hyperopia had decreased to approximately one-fourth D more than the original correction. It was indeed fortunate that the opportunity to check the refraction presented itself only a few days before the beginning of the administration of insulin.

In conclusion, the lesson to be learned is that the ophthalmologist should not get into the habit

of thinking of the eye as a unit independent of the other systems of the body. Likewise those practicing other branches of medicine, and especially the internist, should realize that often the eye provides evidence that can be easily seen, and that will aid in diagnosis and treatment of a great number of systemic diseases.

926 E. McDowell Rd.

ETHEL M. LUCE-CLAUSEN, Rochester, N. Y. (*Journal A. M. A.*), concludes that the value of ultraviolet radiation in the prevention and cure of rickets and tetany is an accepted fact and has been proved indisputably to be both safe and specific if given under accepted conditions. In the treatment of fractures of bone, experimental evidence points to radiation as being of little if of any value. In the treatment of tuberculosis, no claims for the specificity of ultraviolet radiation have yet been substantiated, though many authors still regard irradiation as a useful aid to other forms of treatment. In the treatment of diseases of the skin of bacterial origin ultraviolet radiation may be of value, provided the organisms lie within the range to which the rays penetrate and are killed or attenuated by doses safe for the host. In other diseases of the skin such as psoriasis, beneficial results might be due to the effect of radiation in producing hyperemia. Tumors of the skin have been produced in rats and mice with prolonged exposure to ultraviolet radiation, but the exposures needed are so far outside the range in general use by man, either in sun bathing or in the use of rays from artificial sources that a warning of danger seems unnecessary. A caution, however, to avoid the abuse of radiation therapy, since its effects on the skin are imperfectly understood, is completely justified. More research is undoubtedly needed on the question of the photodynamic effect of radiation on the skin with special reference to the possible synthesis, in the skin, of the carcinogenic hydrocarbons.

During the last six years C. C. TUCKER and C. A. HELLWIG, Wichita, Kan. (*Journal A. M. A.*), studied by microscopic methods every specimen removed during anorectal operation. In the majority of cases nothing was detected by histologic study which changed the prognosis or treatment based on clinical examination. There are, on the other hand, so many cases in which the microscopic examination revealed conditions which were not suspected clinically that the routine histologic study of proctologic specimens seems well justified, in the interest of the patient. McCarty, basing his statistics on 150,000 surgical cases, found that routine microscopic examination revealed in 0.5 per cent of all operations a malignant condition which was not suspected by clinical methods or during operation. In the authors' 951 proctologic cases this percentage of clinically unrecognized cancer is almost four times higher, namely 1.9 per cent.

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## THE INDICTMENT

Now that we members of the American Medical Association stand under criminal indictment for violation of the Federal Anti-Trust Acts, it might be well to reassert that if we don't hang together we hang separately. Naturally we resent being dragged before the criminal courts of this land but bitter ravings against the present national administration will not aid our cause in the slightest. Rather it is up to us to actively mobilize public opinion in our favor, for after all the courts follow public opinion. There seems to be very little sympathy among the general public for the methods adopted by the Federal Government in its present effort to drag the American Medical Association into disrepute. Most physicians feel that if they constitute a trust so does the Baptist Church or the Masonic Lodge or the C. I. O. or the American Bar Association or the college fraternity system or the Podunk Cat Council or the American Kennel Club or any other organization prescribing certain requirements for membership therein. Deplorable though it may be, medicine is in politics right now; and the only language any politician understands is a maze of counter-political machinations. So perhaps we had better spend a little less time in the sick room and in the laboratories and more in the political market places. It should be said that physicians may have just as much duty toward the general public as they do toward the welfare of the individual patient. And if the quality of medical care in America is not to be lowered then we physicians must carry the brunt of the

fight to see that it is not lowered. That is part of our sworn duty to the public at large.

One other thing may be said in support of the A. M. A. officials in Chicago—it is simply that most of us would rather be dictated to by Chicago than Washington.

## DOES EFFICIENCY COUNT?

The primary function of a charity hospital should be to get patients well at a minimum of cost to the tax payers who support the institution. That function is necessarily best served by efficient management.

More and more in America the electorate is demanding of its elected servants that they make sure that tax-supported projects are efficiently managed. The public no longer displays the deplorable attitude of tolerance toward political machinations that it once did. An awakened citizenry is today clamoring for service in its behalf as opposed to personal maneuvers by its servants either for or against those individuals either for or against those in elective offices.

There exists at present an unfortunate controversy regarding the management of El Paso City-County Hospital. In the interest of shedding light on a difficult situation, and focussing attention on the efficiency of the present management of the hospital, a survey was made of costs per patient per day in various hospitals of Texas, as compared with El Paso's tax-supported charity hospital. Study of the results of this survey must lead to the inescapable conclusion that the El Paso City-County Hospital is perhaps the most efficiently managed institution of its type in the state of Texas. And credit for that high state of good management must be given squarely to the present medical superintendent, Dr. A. H. Butler. The principal surprise is that El Paso City and County has been able to secure and retain the able services of such a superintendent at the absurdly low salary allowed him. It follows that it is to the best interest of the patients, the tax payers and the medical profession of El Paso to make all effort to retain the present management.

The survey shows the following costs per patient per day:

Providence Hospital (Waco)	\$3.24 to \$4.28
Baylor Univ. Hospital (Dallas)	\$5.73
Memorial Hospital (Houston)	\$7.14
Scott & White (Temple)	\$5.05 to \$5.20
Hendrick Memorial (Abilene)	\$5.50
King's Daughters (Temple)	\$5.97
Methodist Hospital (Dallas)	\$6.50
Herman Hospital (Houston)	\$3.76 to \$5.02
Jefferson Davis (Houston)	\$2.86
John Sealy Hospital (Galveston)	\$3.55
Wichita General (Wichita Falls)	\$5.06
Robt. B. Green Memorial (San Antonio)	\$2.39
Parkland Hospital (Dallas)	\$3.30
EL PASO CITY-COUNTY HOSPITAL	\$1.78



In private enterprises good management is rewarded in proportion to savings made or profits gained for the employer. Why should not efficient services of those in the employ of the public be likewise recognized?

### A WAY OF DEATH

When the last hour comes, and all humanly possible has been done to save life the time arrives when the physician must consider easing the pathway of the dying patient. It is simply inhuman to abandon efforts calculated to ease pain and render bodily comfort when death approaches. The wise physician can rob death of much of its terror by his presence and kindly ministrations up to the moment of its arrival. In so doing he is certainly performing one of his highest functions. Death must come to all men and the physician fulfills a high trust when he makes its coming less grievous to bear both by patient and the patient's family. Many small details enter into the process of bringing comfort to the dying patient. Small details, however, are the very essence of art. In his capacity as comforter to the dying the physician is exercising one of the most beautiful aspects of his high calling which in itself is a curious mixture of science and art alike.

Believing that this topic needs periodic attention we quote excerpts from a recent article:<sup>1</sup> " . . . . After the digestive processes have failed the dry and parched condition of the mouth will cause intense thirst. As long as the patient can swallow water, weak tea with lemon, or wine should be given with increasing frequency but in smaller amounts . . . . After the patient can no longer take fluid in any manner without choking, small pieces of ice enmeshed in gauze may be placed between gums and cheeks . . . . Vaseline applied to the lips keeps them moist and free from crusts. The mouth should be swabbed with a cleansing mouth wash as often as necessary to keep it clean . . . . Sometimes, the mouth, instead of being too dry will contain an excess of secretion. Turning the patient on his side and placing a piece of gauze between gums and cheeks will facilitate the drainage of fluid from the mouth. The nostrils should be kept moist and free from crust by cleaning with mineral oil on a cotton applicator . . . . The eyes too, need attention. They may contain secretions which are distressing to look at and annoying to the patient. If this is the case, flushing the eyes with boric acid solution will be of value. If the eyes remain wide open, they may be dry due to lack of secretion. Sterile mineral oil dropped in the eyes will lessen irritation due to this . . . . Whatever position eases the respiration or lessens stertor should be maintained. The one guiding principle should be no matter in what position the patient may be placed he must be well supported if he is to be comfortable. When death is very near, the patient should probably not be moved . . . . Another cause of a dying patient's discomfort is a distended

bladder. This condition may be a reason for restlessness and should always be noted . . . . When the bladder is distended there may be a constant dribbling of urine. If so, the patient should be protected from a wet bed and a foul odor . . . . As the peripheral circulation fails the heat regulating system also fails. The patient's body surface becomes cool and usually covered with a damp perspiration. The patient should be kept absolutely dry and sponged frequently . . . . It would seem that light covering is all that is necessary. Heavy covering and hot water bottles or warmers from whose burning sensation the patient may be unable to move may add to his restlessness . . . . Fresh air is essential. . . . The room should be well lighted and ventilated. Light instead of annoying the patient may be desired . . . . Hearing is probably the last of our senses to leave us. Therefore, quiet, dignity and restraint should be maintained. Whatever must be said should be said in a natural tone . . . . Morphine is frequently ordered for a dying patient . . . . Large and frequent doses (Morphine) may be needed. There is no limit to the amount that may be properly given. As the end approaches, a full grain is not too much of a dose. And if then the needle cannot find a vein it is always easy for a long needle to reach the heart. Usually subcutaneous injections are, of course, useless . . . . All patients do not have the same attitude toward death. Some fear death; some face death with quiet courage; some welcome death as a kind release from suffering . . . . We should aim to become familiar with the practices of different faiths and should know what is necessary for patients of Protestant, Catholic, Jewish and other faiths when they are near death . . . . While we are caring for the dying patient, our sympathy and concern must extend also for the loved ones who are watching at the bed side. Actions speak louder than words and what we say is not nearly as important as what we do."

In the conferring of these small, humane attentions the physician may well hope that when his time comes some brother will likewise make easier his own journey through the portals of death.

1. Kasley, Virginia: *As Life Ebbs*, Am. J. Nurs.: 38:1191, November, 1938.

### JAMES J. GORMAN, M. D.

At the annual election of the El Paso County Medical Society, Dr. James J. Gorman was named President for 1939 to succeed Dr. George Turner.

Dr. Gorman was born August 22, 1896, at Ludlow Ky. Most of his childhood was spent in El Paso, the family moving here in 1908. Preliminary education was obtained in the public schools of El Paso. In 1918 the degree, Bachelor of Arts, was conferred on Dr. Gorman by the University of Texas. The degree, Doctor of Medicine, was earned at Harvard University in 1923. Internship and residency were served at Cincinnati General Hospital. Coming to El Paso in 1926, Dr. Gorman



began the private practice of medicine. He has confined his practice to gastro-enterology.

Dr. Gorman is a member of the El Paso County Medical Society, the Texas State Medical Association, the Texas Gastro-Enterological Society, the American Medical Association and the Southwestern Medical Association. He is a Fellow of the American College of Physicians. Dr. Gorman was at one time an associate editor of *SOUTHWESTERN MEDICINE*. In 1936 he served as President of Southwestern Medical Association. While at Harvard University he was a member of the Boylston Medical Society, an undergraduate honor organization.

Dr. Gorman is widely known throughout the Southwest, having taken an active interest in all things pertaining to the welfare of medicine in this part of the country. He has served ably on many missions and committees connected with various medical enterprises in this territory. Dr. Gorman is well known for his energy and clear thinking, and brings to the office of President of the El Paso County Society a high capacity for accomplishing things.

Dr. Gorman will serve until December, 1939, when he is to be succeeded by Dr. Leslie Smith, who is President-elect.

### *Special Section*

## Arizona State Medical Association

J. D. HAMER, M. D.  
*Associate Editor*

### ANNUAL MEETING UNDER WAY

Dr. Chas. S. Smith, President-elect and Program Chairman for the Annual Meeting of the Arizona State Medical Association for 1939, reports that the scientific program for the Annual Meeting is well under way and nearing completion. The program comprised of papers from the membership of the state is entirely filled, with the majority of guest speakers selected and accepting. The meeting is to be held at Phoenix on April 13, 14, and 15, with the Maricopa County Medical Society serving as the host society. This Society appointed its local committees early in the fall, which committees have been actively at work preparing for the meeting under the direction of Dr. John W. Pennington general chairman. The February issue of *Southwestern Medicine* will carry a preliminary synopsis of program preparations and activities, with the completed program to appear in the March issue, according to present plans.

### MARICOPA COUNTY MEDICAL SOCIETY

The Maricopa County Medical Society elected the following officers to serve for the year 1939: President, Dr. Jas. L. Johnson; Vice-president, Dr. Kent Thayer; Secretary-treasurer, Dr. Wm. Jewell Smith; Censor, Dr. Thos. W. Woodman; Directors, Drs. E. R. Charvoz, Mayo Robb, Reed Shupe.

### ARIZONA COUNTY MEDICAL SOCIETIES

It is urged that each county medical society send in any news items it wishes printed in the Arizona Section of *Southwestern Medicine*. Newly elected officers, and similar items are immediately desirable for publication. The membership is also urged to send in such scientific papers as have been read before the county medical societies for publication

in this section. This section is open to the membership of the Arizona State Medical Association for publication of papers and such other expression of opinion as might be desirable to the county societies. Address all communications for this section to Dr. J. D. Hamer, 910 Professional Bldg., Phoenix.

### REGIONAL (TERMINAL) ILEITIS

By Chas. N. Ploussard M. D.,  
Marcus G. Kelly, M. D.,  
*Phoenix, Arizona*

Regional ileitis is a disease of the terminal portion of the ileum characterized by a subacute or chronic necrotizing and cicatrizing inflammation leading to stenosis.

It was recognized as a clinical and a pathological entity in 1932 by Krohn, Ginzburg and Oppenheimer and was reported as such by them. Previous to that time it had been classified as a benign granuloma. In their original report, the above authors were led to believe that the condition was peculiar to the last 30 cm. of the ileum, hence the term, terminal ileitis. However, Brown, Barger and Weber in 1934 showed that the pathological picture of regional ileitis was found also in the jejunum and regional area of the colon.

The clinical symptoms of the disease are weakness, pain varying from dull to cramp-like in character and usually situated in the right lower quadrant, moderate diarrhea, vomiting, fever (rarely high), a rapid and progressive loss of weight.

The condition is usually of long duration, varying from a few months to years and is most commonly found in young adults.

The physical findings of regional ileitis are the following:

*Read before Maricopa County Medical Society*

- 1st, a mass in the right iliac region
- 2nd, fistula formation
- 3rd, emaciation and secondary anemia
- 4th, evidences of intestinal obstruction
- 5th, a moderate leucocytosis sometimes is present.

The clinical course of the disease has been divided into four phases:

1. Signs of acute intra-abdominal inflammation. In this type the physical findings are those of an acute appendicitis and the diagnosis of acute ileitis is usually made at the operating table. The ileum presents a greatly thickened and red appearance with a marked edema of the neighboring tissue. The mesentery of the affected ileum is likewise thickened and edematous and contains many enlarged glands.

2. The ulcerative phase in which the clinical picture is that of an ulcerative colitis, colicky pains, loose stools, containing pus, mucus and blood. In this stage a secondary anemia develops and there is a progressive loss of weight.

3. The stenotic phase, which is the one most frequently encountered. In this phase the findings are those of a small bowel obstruction, vomiting, visible peristalsis, intermittent knife-like pain and constipation. A mass is usually palpable in the right lower quadrant.

4. The fistual state. These fistulas develop following previous drainage for ulcer or abdominal abscess supposedly of appendiceal origin. Investigation of these persistent fistulas led to the discovery that these fistulas had their origin in the ileum and not in the appendix.

Roentgenographic studies in regional ileitis vary with the duration of the disease. In the early stage after first finding in the affected part of the ileum is the presence of a constant diameter of the intestine, denoting rigidity of the tube. There is no segmentation in the diseased ileum.

A filling defect is noted as the disease progresses, the greater the stenosis, the greater the filling defect. Still later in the disease as the stenosis increases, the barium shows as a slightly irregular, thin, linear shadow, the so-called string sign. Further stenosis leads to a partial obstruction with a resultant dilatation of the intestinal coil proximal to the affected portion and a delayed motility in the passage of the barium.

The pathological anatomy has been fully described by Krohn, "The normal intestinal folds are distorted and broken up by the destructive ulcerative process and blunted by edema, giving a bulbous structure to the mucosal aspect of the intestine. A series of small linear ulcerations lying in the groove on the mesenteric side of the bowel is always present. The submucosal and to a lesser extent the muscular layer of the bowel are the seat of marked inflammatory hyperplastic and exudative changes. As a result of these the wall of the bowel becomes enormously thickened, frequently reaching two or three times its normal density. The lumen of the bowel is greatly encroached on,

becomes irregularly distorted and at times is only large enough to admit a medium sized probe. The intestine proximal to the involved segment frequently but not invariably becomes greatly dilated and may show superficial irregularly placed tension ulcers. When seen at the operating table, the involved loop is a soggy hose-like mass. In the older phases of the disease the exudative reaction is replaced by a fibrostenotic process and the mucosa appears atrophic with occasional superficial erosions and islands of papillary or polypoid hyperplasia. The serosa loses its gloss and frequently exhibits tubercle like structures on its surface. The mesentery of the affected segment is greatly thickened and fibrotic as is the subserosal intestinal fat. A marked feature is the tendency toward perforation. The chronic perforation apparently occurs slowly enough to permit of walling off by adhesions to a neighboring viscus, to the perietal peritoneum or to the omentum. There is a marked tendency to the formation of internal fistula. The walled-off abscesses resulting from slow perforation into the peritoneal cavity when drained give rise to chronic fecal fistulas."

The microscopic picture is not unusual showing varying degree of acute, sub-acute and chronic inflammation usually with destruction of the mucosa and submucosa leaving an atrophic layer of epithelium the result of regenerated process. Giant cells have been found in some specimens removed at operations. It was the presence of these cells that led

All Doctors---

## ATTENTION!

Surplus copies of  
**SOUTHWESTERN MEDICINE**  
for April, 1938  
are exhausted



If you do not need your copy,  
please mail to:

D. F. HARBRIDGE, M.D.  
Sec'y. Board of Managers, Southwestern Medicine  
822 Professional Bldg.,  
Phoenix, Arizona



earlier observers to class this condition as some form of tuberculosis.

Differential diagnosis. In the acute stage ileitis and acute appendicitis so closely resemble one another that the diagnosis is usually made at time of operation or post operatively. In the ulcerative stage ileitis is differentiated from colitis by the barium enema and sigmoidoscopy, clinical signs and symptoms being practically identical. Hodgkins disease, lymphosarcoma, carcinoma and intestinal tuberculosis closely simulate the symptoms of regional ileitis and the differential diagnosis is again made post operatively.

Treatment of this condition is surgical, medical treatment is palliative and supportive. Radical resection of the diseased portion of the intestine or short circuiting this area have been used with good success. Resection in one or two stages has been done in the majority of cases reported in the literature. Koster is of the opinion that in the moderately advanced stage resection is the method of choice, although side-tracking has been used successfully. In advanced stages resection has been the only method used successfully.

In review of the cases of regional ileitis it has been found that the general mortality is 14%. Sixty-five cases were treated by radical resection and 15% of these cases showed a recurrence of the disease. Eight of the cases in which radical resection was done terminated fatally. Cure resulted in thirteen out of fifteen cases treated by simple side-tracking operations. One death occurred in the fifteen and a persistent external fistula resulted in the other.

## MISCELLANY

### SPECIALTY BOARDS

*American Board of Anesthesiology:* An affiliate of the American Board of Surgery. Written examination, April 8 in various cities. Oral examination, St. Louis, May 13-14. Sec., Dr. Paul M. Wood, 745 Fifth Avenue, New York.

*American Board of Dermatology and Syphilology:* Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

*American Board of Internal Medicine:* Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

*American Board of Obstetrics and Gynecology:* Written examination and review of case histories of Group B applicants will be held in various cities of the United States and Canada, Feb. 4. General examination for all candidates (Groups A and B) will be given in St. Louis, May 15-16. Applications must be filed not later than sixty days prior to date of examination. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh (6).

*American Board of Ophthalmology:* St. Louis, May 15. Applications must be filed before Feb. 15. Sec., Dr. John Green, 3720 Washington Blvd., St. Louis, Mo.

*American Board of Orthopaedic Surgery:* Sec., Dr. Fremont A. Chandler, 6 N. Michigan Ave., Chicago.

*American Board of Otolaryngology:* Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

*American Board of Pediatrics:* Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

*American Board of Psychiatry and Neurology:* Sec., Dr. Walter Freeman, 1028 Connecticut Ave. N.W., Washington, D. C.

*American Board of Radiology:* St. Louis, May 11-14. Sec., Dr. Byrl R. Kirklin, 102-110 Second Ave., S. W., Rochester, Minn.

*American Board of Urology:* Sec., Dr. Gilbert J. Thomas, 1009 Nicollet Ave., Minneapolis.

*National Board of Medical Examiners:* Parts I and II. Medical centers having five or more candidates desiring to take the examination, Feb. 13-15. Ex. Sec., Everett S. Elwood, 225 S. 15th St., Philadelphia.

### SCIENTIFIC MEDICINE WINS

The voters of California and Colorado, November 8, by overwhelming majorities emphatically rejected proposals made in those states to undermine the structure of scientific medicine. *The Journal of the American Medical Association* for November 19 says. In California an initiative humane pound law, so called, proposing to cripple scientific research by hampering animal experimentation, was decisively defeated. In Colorado an initiative measure proposed by a group of chiropractors, to debase the quality of medical care in the state by repealing the basic science act and by destroying other safeguards that have been erected to assure adequate and scientific medical service, was met by an avalanche of negative votes, running as high as ten to one in some counties.

In Oklahoma an initiative measure that would have sanctioned practices not conducive to public welfare failed to get on the ballot because of court action instituted by the medical profession. In Ohio a chiropractic initiative somewhat similar to the Colorado initiative died aborning, the cultist sponsors apparently becoming disheartened shortly after the proposal was submitted to the attorney general for his approval as to form. Petitions in Ohio were not circulated and the proposed initiative measure was not submitted to the people for a vote.

The medical associations in the states named assumed the lead in thwarting the selfish interests behind these proposals, interests that would subordinate the public welfare to their own private ends. In California and Colorado the state medical associations, aided by many lay and other professional groups and by public spirited citizens, informed the people fully of the dangers implicit in the proposals. To bring these dangers to the attention of the voters necessitated great sacrifices of time and money but the results show that such sacrifices were well worth while and indicate that an informed electorate will support scientific medical care under proper legal and ethical safeguards.

### DENVER RADIOACTIVE PRODUCTS NOT ACCEPTABLE

The Council on Physical Therapy reports that the Denver Radium Service Laboratories have submitted for consideration several products containing radium or radon. These products include: A radium emanation jar, called the "vitalizer," ampules of radium chloride solution, sterile saline solution containing radium chloride, tablets radium chloride, tablets endocrine compound No. 1 (for male), tablets endocrine extract No. 2 (female), an emanation bath, vaginal jelly, vaginal douche, colonic irrigation (rectal), ophthalmic solution, urethral bougies, vaginal suppositories, suppositories (the box received is plainly labeled "rectal" but it



contains what are undoubtedly vaginal ampules), rectal suppositories, an ointment designated "Narada Balm," and Chloradium ointment. The active agent in these products is claimed by the Denver Radium Service to be "Radium" and "the therapeutic value of radium is due to its radioactivity." The radioactivity of these products were tested by a reliable investigator. It was found that the amount of radioactive substance contained in any of them is so small that the use of these preparations would probably do no harm, but for the same reason they could not be expected to do any good. If they should be used in larger doses or if their use should be continued for a long time, the possibility of danger cannot be avoided. As the result of repeated experiments on animals as well as clinical observation in human beings, it is now well known that the internal administration of radium or products of radium in certain doses can produce damage to the tissues. Considering these points, as well as the character of the advertising literature submitted, the Council has rejected these preparations for inclusion in its list of accepted devices for physical therapy.—(J. A. M. A.)

### THE FAMILY DOCTOR

The family doctor has always been heralded the adviser and counselor of his patients on many subjects. He has always been the trusted confidant. The *Saturday Evening Post*, in an article by J. P. McEvoy, makes the following note in its record of the development of Shirley Temple:

"All of Shirley's earnings are put in a trust fund for her benefit when she grows up. I am making enough myself, so I don't have to touch any of it." And then Mrs. Temple continued: "You know, Bernstein wanted to handle Shirley. He came over here to the house with Mrs. Coogan one day, and walked up and down the living room waving a check for half a million dollars in my face. He told me he had just got this for Jackie and we ought to let him handle Shirley, because we didn't know anything about the picture business and we would certainly be cheated if we didn't let him take care of us.

"Practically every agent in town had been after us, and we didn't know which way to turn. Bernstein talked and talked until we were dizzy, and then, in desperation, we called up our family doctor and asked him to come over and advise us, because he was the only professional man we knew. He has been advising us ever since."

"You have no agent?" I was incredulous. Every one has an agent in Hollywood, even the agents.

"No agent."

I made a rapid calculation. Ten per cent of the Temple earnings saved. Nice going for a family doctor.

"Of course, we have a lawyer now who helps us, but weren't we lucky to have such a sensible doctor?"—(Jour. A. M. A.)

### INK BOTTLE IN VAGINA 50 YEARS

A widow for 2 weeks, aged 70. Patient had no complaint. Complaints came from those about her.

The patient, a few years after menarche, had started masturbation, using an ink bottle. Some years later this bottle was lost in the vagina and could not be removed by the patient and she obtained another bottle to continue her practice. When the patient was 35 a widower offered her a home which she accepted.

She kept the story of her accident a secret from her husband, although he insisted during the 35 years of their married life that there was something wrong with her. During her married life she continued to use the second bottle for masturba-

tion purposes. Two weeks before admission the patient had such a foul discharge that an effort was made to remove the bottle.

The patient was anesthetized and an episiotomy done. Use of the high forceps was unsuccessful. The bottom was broken with a hammer and chisel and the lower part removed piece by piece. The post-operative period was uneventful.

—(J. Ind. St. M. Assoc.)

## NEWS

### General

Announcement has been received of the program for the International Post-Graduate Medical Assembly of Southwest Texas to be held at San Antonio Texas, January 24, 25, 26, 1939. No registration fee is charged doctors living outside of Bexar County. There will be a complimentary Stag Smoker, Tuesday night, January 24, and a Dutch Treat Dinner-Dance, Wednesday night, January 25. Public health lectures, open to the public, are scheduled for January 25. Dr. A. J. Myers will speak on "Tuberculosis," and Dr. Karl A. Menninger is to lecture on "Insanity." There is to be a short trip into northern Mexico for the guest speakers. Some of the speakers are: Drs. Fred L. Adair, Russell L. Cecil, James B. Costen, Harry S. Gradle, Arthur E. Hertzler, Roy R. Kracke, Karl A. Menninger, and Howard C. Naffziger.

### American Medical Association—Scientific Exhibit

Application blanks are now available for space in the Scientific Exhibit at the St. Louis Session of the American Medical Association, May 15-19, 1939. Attention is called to the fact that the meeting is a month earlier than usual, and applications close January 5, 1939. Blanks will be sent on request to the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago, Ill.

The American Board of Ophthalmology announces an important change in its method of examination of candidates for the Board's certificate.

Examinations will be divided into two parts. Candidates whose applications are accepted will be required to pass a WRITTEN examination which will be held simultaneously in various cities throughout the country approximately 60 days prior to the oral examination.

The WRITTEN examination will include all of the subjects previously covered by the practical and oral examinations.

ORAL examinations will be held at the time and place of the meeting of the American Medical Association and of the American Academy of Ophthalmology and Oto-Laryngology, and occasionally in connection with other important medical meetings. The ORAL examination will be on the

following subjects: External Diseases, Ophthalmoscopy, Pathology, Refraction, Ocular Motility, Practical Surgery.

Only those candidates who pass the written examination and who have presented satisfactory case reports will be permitted to appear for the oral examination.

Examinations scheduled for 1939: WRITTEN: March 15th and August 5th. ORAL: St. Louis, May 15th; Chicago, October 6th.

Applications for permission to take the written examination March 15th must be filed with the Secretary not later than February 15th.

Application forms and detailed information should be secured at once from

Dr. John Green, Secretary,  
6830 Waterman Ave.,  
St. Louis, Mo.

The Mississippi Valley Medical Society offers a cash prize of \$100.00, a gold medal and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be members of the American Medical Association. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Burlington, Iowa, September 27, 28, 29, 1939, the Society reserving the exclusive right to first publish the essay in its official publication — the MISSISSIPPI VALLEY MEDICAL JOURNAL (INCORPORATING THE RADIOLOGIC REVIEW). All contributions MUST NOT exceed 5000 words, be typewritten in English in manuscript form, submitted in five copies, and must be received NOT later than May 1, 1939. Further details may be secured from

Harold Swanberg, M. D., Secretary,  
Mississippi Valley Medical Society,  
209-224 W. C. U. Building,  
Quincy, Ill.

### *El Paso County*

The regular meeting of the El Paso County Medical Society was held at the Hilton Hotel, Monday evening, November 28. Dinner was served at 7:00 p.m.; the Scientific Meeting began at 8:00 p.m. The program was as follows:

"Treatment of Stones of the Urinary Tract—Surgical and Non-Surgical." By A. W. Multhauf, M. D.

"Malignant Neutropenia with case report." By C. D. Awe, M. D.

This was the last Scientific Meeting for 1938.

A regular Staff Meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, December 6, 1938, at 12:30 o'clock in the auditorium of the Nurses' Home. Luncheon was served. Officers were elected as follows: Dr. Russell Holt, President; Dr. C. E. Jumper, Vice-president; Dr. Louis Breck, Secre-

tary-Treasurer; Dr. Walter Stevenson, Chief of Surgical Services; Dr. E. A. Duncan, Chief of Medical Services. The program was as follows:

"Acute Suppression of Urine Following Operation on Gangrenous Appendix." By Dr. C. E. Jumper.

Discussion by Dr. Paul Gallagher.

At the last regular Staff Meeting of Southwestern General Hospital, the following officers were elected: Dr. C. D. Awe, Chief of Staff; Dr. F. O. Barrett, Vice-chief of Staff; Dr. John L. Murphy, Secretary. On the Executive Committee are: Drs. J. J. Gorman, S. C. Goodwin and W. R. Curtis. On the Medical Records Committee are: Drs. F. O. Barrett, W. J. Pangman, and Russell Holt.

The annual meeting of the El Paso County Medical Society for the election of officers was held at the Hilton Hotel, Monday evening, December 12, 1938. Dinner was served at 7:00 p. m. The business session was at 8:00 p. m. The following officers were elected: Dr. James J. Gorman, President; Dr. Leslie M. Smith, President-elect for 1940; Dr. Orville E. Egbert, Vice-president; Dr. Jesson L. Stowe, Secretary-Treasurer; Dr. A. W. Multhauf, Librarian; Drs. Edwin J. Cummins, J. W. Cathcart, and James W. Laws, Nominating Committee; Drs. A. P. Black and J. T. Bennett, Milk Committee; Dr. George Turner, Board of Censors; Drs. Ralph Homan, and Paul Gallagher, Board of Managers SOUTHWESTERN MEDICINE; Dr. W. W. Waite, Economics Committee.

## COMMUNICATIONS

Sir:

It was decided by the McKinley County Medical Society, at our last meeting, that the coming New Mexico State session would be held one week before the AMA. This would, therefore, be May 11, 12 and 13, 1939.

As this is to be in Gallup, N. M., we would appreciate you publishing a notice of this meeting.

Any other publicity or help that you can give us in this matter will be appreciated.

Sincerely,

WM. DODD ANTHONY, M. D.,  
Sec. & Treas.,  
1st. State Bank Bldg.,  
Gallup, N. M.

Sir:

The first American Congress on Obstetrics and Gynecology meets in Cleveland, on September 11-15, 1939.

Whatever publicity you may find it possible to give to the same will be greatly appreciated. Much interest in the forthcoming Congress has already been manifested and a noteworthy gather-



ing will probably take place. Any further information desired will be available at the Central Office, 650 Rush Street, Chicago, Illinois.

For the Committee on Medical Publicity,

Sincerely yours,

GEO. W. KOSMAK M. D.

Chairman.

Sir:

In addition to the articles enumerated in our letter of December 16, the following have been accepted:

**Abbott Laboratories—**

Solution of Epinephrine Hydrochloride 1:1000, 1 fluid ounce bottle.

Solution of Epinephrine Hydrochloride 1:1000, 1 cc. ampoule

**Thiamin Chloride-Abbott**

Tablets Thiamin Chloride-Abbott, 0.33 mg.

Tablets Thiamin Chloride-Abbott, 1.0 mg.

Tablets Thiamin Chloride-Abbott, 3.3 mg.

Ampoules Thiamin Chloride-Abbott, 6.66 mg.

**Iodeikon Emulsion Powder-Abbott.**

Ampoules Estrone, 0.5 mg. in Oil, 1 cc.

**Pentothal Sodium-Abbott**

Ampoules Pentothal 1.0 Gm. (15½ grains).

Buffered with Sodium Carbonate 0.6 Gm.

Ampoules Pentothal 0.5 Gm. (7½ grains).

Buffered with Sodium Carbonate 0.3 Gm.

**Lederle Laboratories—**

Solution Epinephrine Hydrochloride 1:1000, 1 fluid ounce bottle.

Solution Epinephrine Hydrochloride 1:1000, 1 cc. ampoule.

Solution Epinephrine Hydrochloride 1:1000, 5 cc. vial.

**Eli Lilly & Company—**

Tuberculin Ointment (Wolff)-Lilly.

**The Maltbie Chemical Co.—**

Ampuls Caffeine with Sodium Benzoate, 0.5 Gm. (7½ grains), 2 cc.

Ampuls Sodium Thiosulfate-Maltbie, 10 cc.

**The Upjohn Company—**

Hypodermic Tablets Strophanthin 1/200.

Hypodermic Tablets Digitalin (0.00065 Gm.) 1/100 grain

**U. S. Standard Products Co.—**

Solution Epinephrine Hydrochloride 1:1000, 1 fluid ounce bottle

Solution Epinephrine Hydrochloride 1:1000, 1 cc. ampoule

Yours sincerely,

Paul Nicholas Leech, Secretary.

COUNCIL ON PHARMACY AND  
CHEMISTRY

Sir:

The American Medical Association has a number of motion picture films for loan, among which are several on Physical Therapy. The borrower is expected to pay the expenses both ways, and is expected to be careful when running them.

It would be appreciated if you would place a notice in your State Journal to the effect that they may be had for the asking.

Dr. Thomas G. Hull, Director, Scientific Exhibit, has charge of the distribution.

Very truly yours,

HOWARD A. CARTER, Sec.

Council on Physical Therapy,

American Medical Association.

Ed.—Some of the films available are:

**Syphilis—A Motion Picture Clinic**

Sound. 35 mm., 9 reels; also 16 mm., 2 large reels, 1,600 ft. each. Running time, about 1½ hours.

**Cancer—(Anti Cancer Film).**

Silent. 35 mm. 3 reels. Running time, about 45 minutes.

**Blood Circulation (Harvey Blood Film).**

Silent. 35 mm. 3 reels. Running time, about 45 minutes.

**Blood Transfusion.**

Silent. 16 mm., 1 large reel, 1,200 feet. Running time, about 45 minutes.

**Comparative Physiology of Labor.**

Silent. 16 mm., 4 reels, total about 1,400 feet. Running time, about 1 hour.

**Effects of Heat and Cold on the Circulation of the Blood.**

Silent. 16 mm., 1 reel, 300 feet. Running time, 12 minutes.

**Effects of Massage on Circulation of Blood.**

Silent. 16 mm., 1 reel, 200 feet. Running time, 8 minutes.

**Contraction of Arteries and Arterio-Venous Anastomoses.**

Silent. 16 mm., 1 reel, 250 feet. Running time, 10 minutes.

**Therapeutic Exercises for the Shoulder Joint**

**Following Dislocation.**

Silent. 16 mm., 1 reel, 250 feet. Running time, 10 minutes.

**Treatment of Compression Fracture of the First Lumbar Vertebrae.**

Silent. 16 mm., 1 reel, 300 feet. Running time, about 12 minutes.

**Aids in Muscle Training.**

Silent. 16 mm., 1 reel, 300 feet. Running time, about 12 minutes.

**Underwater Therapy.**

Silent. 16 mm., 1 reel, 400 feet. Running time, about 16 minutes.

**Occupational Therapy.**

Silent. 16 mm., 1 reel, 300 feet. Running time, 12 minutes.

**Massage.**

Silent. 16 mm., 1 reel, 100 feet. Running time, 4 minutes.

**Motion pictures for the public:**

**A New Day.**

Sound. 16 mm., 1 reel, 400 feet. Running time, about 12 minutes.

A dramatized film on the prevention and treatment of pneumonia.

**Prevention of Burns.**

Silent. 16 mm., ½ reel. Running time, about 7 minutes.

A dramatized picture depicting the prevention of burns in children, with a short presentation of tannic acid treatment.

**Men of Medicine.**

Sound. 16 mm., 1 reel, 800 feet. Running time, about 30 minutes.

THE MARCH OF TIME—produced by the Editors of Time and Life, 369 Lexington Ave., New York City.

Anatmoy of the heart will be shown by a Swiss firm on large scale models at the 1939 California World's Fair.



## "GROWING PAINS" MAY INDICATE RHEUMATIC FEVER

So-called "growing pains," far from being of slight importance to a child's health, may indicate acute rheumatic fever, warns Paul A. White, M.D., Davenport, Iowa, in his article, "Acute Rheumatic Fever," in the January issue of *Hygeia, The Health Magazine*.

While the first attack of acute rheumatic fever is most frequently found between the ages of 3 and 10, more than half the victims have subsequent attacks. Months or years may intervene between the recurrences.

Factors most frequently associated as causes include exposure to cold, debility from undernourishment or preceding illnesses, recurring colds, sore throats and infections of the upper respiratory passage.

Pains which should not be confused with rheumatic fever affect the muscles of the legs and thighs or arms and not the joints. These pains occur more often at night and disappear in the morning. The child does not limp and may run his hand the full length of a limb in trying to locate the point of pain.

Children with rheumatic fever, on the other hand, can usually point directly to the joint involved, which may be slightly swollen. They usually limp, run a low grade fever, remain underweight, have a certain pallor and look undernourished.

Among the symptoms of acute rheumatic fever which parents can recognize are fatigue, rapidity of pulse and night sweats. Reddish, rounded, slightly elevated areas on the skin, as well as nodules appearing in or under the skin on the fingers, palms, neck, forehead, chest or cheeks, also may be symptoms. Bluish spots on the legs and arms and nose-bleeds, occurring for no known reason, are further indications.

A history of acute rheumatism in one's family further heighten protective measures. If parents or near relatives have had this sickness or if other children in the family have had an attack, another child in the same family may have it.

It has long been known that persons with this type of rheumatism are highly susceptible to heart damage. Unfortunately, while the effects of the disease on the joints may disappear so far as function and usefulness are concerned, the heart nearly always acquires some degree of permanent damage.

The disease is more common in cooler regions of the country where the weather is changeable and wet than in warmer, drier sections.

The Mayo Foundation of Medical Research will show the latest in plastic surgery in the Hall of Science at the 1939 Golden Gate International Exposition.

Plans of the American Red Cross for prevention, relief, and control of disasters will be exhibited by that organization at the 1939 California World's Fair on Treasure Island.

## BOOK NOTES

**DISEASES OF THE NOSE, THROAT AND EAR.** By W. Wallace Morrison, M. D., Clinical Professor and Chief of Clinic, Department of Otolaryngology, New York Polyclinic Medical School and Hospital. 675 pages with 334 illustrations. W. B. Saunders Company, 1938. Cloth, \$5.50 net.

This book is principally of interest to the undergraduate medical student and the general practitioner. There is, however, much of interest to the specialist. Should the average general practitioner know thoroughly the contents of this book he would certainly be in an unusually favorable position to select treatment for his ear, nose and throat cases. It might be said that in such event he would know more about the field of ear, nose and throat than do many so-called specialists.

Much new thought in this specialty field is brought to print in Morrison's text. The use of oily nose drops in infants under two years of age is condemned. Little is said about the use of strong medication intranasally. Rather does the author take advantage of the newer research concerning the effect of various drugs on the ciliated mucosa of the nasal passages and the paranasal sinuses when he recommends medical treatment. The thought is developed that the ciliated membranes of the nose and sinuses constitute a first line of defense against colds and sinusitis.

The book is well illustrated, principally with line drawings. There is much of value contained therein for any physician.

—S.

**DR. BRADLEY REMEMBERS.** By Francis Brett Young.

This book is an absorbing biographical novel dealing with medical science from the time of Pasteur to the present. It is more than that: it is a psychological study of relations, of son to parents, father to son, husband to wife and doctor to conferees and to their organizations, to patients, and most of all to medical science and to medical economics.

An English, 75-year-old physician retires. After all arrangements are completed and he is in his easy-chair by the fire-side he "remembers." He is a boy again with his uncultured, good-hearted father and his attractive, delicate, cultured mother—his home not entirely satisfying; through being hired to a "bone-setter" he acquires a taste for reading and for the healing art; the father is killed; none too long afterward the mother remarries. This is a terrible shock—that she could so soon forget his father. The "bone-setter" dies leaving him middling well-off. He is in medical

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school intimate with a keen fellow student. Both are shocked at the terrible hospital stench and the high death rate. Lister's ideas are everywhere discussed and "cussed"—one of the author's interesting psychologic sallies. He takes his bride to the home he is now about to vacate. He acquires a large country practice through the "Friendly Societies" and other affiliations peculiar to English medical life. His son is born; a still-born daughter comes soon after and in the difficult labor he is called from a scarlet fever case, to give the anesthetic; blood poison and death result.

He falls in love the second time, tells his son of his plans, who "floors" him with his fist—deciding him not to remarry. He worships his son who reluctantly and half-heartedly studies medicine. The son has terrible migraine attacks. The father gives him morphin in a terrible seizure. Before death—from an over-dose of the drug the father's heart is sore and bleeding time after time because of the son's morphin-addiction. His interest in his patients, who sometimes largely forsake him, and in scientific medicine succor his mind. the development of salvarsan and of many other medical advancements are related. His boyhood friend—a true friend to him in many ways—becomes the great surgeon of London and does many wondrous things notably brain surgery after getting a stimulus for it from Harvey Cushing whom he met during the world war. Then comes Lloyd George with his schemes for medical care which the medical men generally and sternly opposed. Because he favored the plan he withdrew from the British Medical Association and was all but ostracized. Lloyd George carried his plan to fruition. At 75 he retired to the village of his youth to while away his last years with a sufficient competence for those years—thanks—as read between the lines—to the Lloyd George plan.

The story is beautifully, grippingly, told in excellent English. Physicians will learn of psychology and of medical economics from it and be entertained. Others will be entertained and should learn a little of the development of medical science and of medical economics and of psychology.

—O. H. B.

**CANCER—ITS DIAGNOSIS AND TREATMENT.** By Max Cutler, M. D., Associate in Surgery, Northwestern University Medical School; Chairman, Scientific Committee, Chicago Tumor Institute; Consultant, Tumor Clinic and Director, Cancer Research, United States Veteran Administration, Hines, Illinois; and Franz Buschke, M. D., Assistant Roentgenologist, Chicago Tumor Institute; Late Assistant, Roentgen Institute, University of Zurich. Assisted by Simeon T. Cantrell, M. D., Director, Tumor Institute, Swedish Hospital, Seattle; Late Assistant, Chicago Tumor Institute. 757 pages with 346 illustrations. Philadelphia and London. W. B. Saunders Company, 1938. Cloth, \$10.00 net.

A thoroughgoing treatise including much practical information on clinical symptoms, signs, diagnostic tests, differential diagnosis, and treatment of a disease that is becoming more and more in the minds of both physicians and laymen. It deals with all accepted standard methods of treatment, evaluating their results and comparing them with-

out bias. It is neither a book favoring surgery, nor one throwing the weight of its influence toward radiology. It does comprehensively discuss the treatment of malignant disease in all its stages, giving in many instances a choice of procedures, but all the while never leaving any impression that all malignancies can be treated in cook book fashion. The emphasis is repeated that each is an individual problem, to be met and best dealt with by a cooperative study and action by clinician, surgeon, and radiologist.

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be read with profit by everyone using radium or x-rays in the treatment of disease. Highly technical discussion is dispensed with and the remarks confined to those that will be useful and understandable to all physicians, whatever their fields.

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—D. von B.

MEDICINE IN MODERN SOCIETY. By David Riesman; Princeton, 1938. Princeton University Press. \$2.50.

This is a presentation of the facts of medicine which Professor Riesman thinks all educated persons should know. He contends that the history of medicine is in reality an epitome of the history of civilization and hence no man is truly cultured who is not cognizant of such facts.

The most interesting chapter deals with the peaks of medical history. The peaks are such as, opium,

mercury, cinchona, revolution in anatomy, blood circulation, scurvy, digitalis, vaccination, anesthesia, hypodermic syringe, germs, insects, anti-sepsis, antitoxins, x-ray, radium, chemotherapy, blood transfusion, insulin, liver therapy, allergy, endocrinology, psychoanalysis, fever treatment, hormones, vitamins, viruses and instruments of precision.

A few relatively short paragraphs are devoted to each of these "peaks" and interesting paragraphs they are. In treating the subject of scurvy he tells that when Jacques Cartier reached the coast of Africa, his sailors were nearly all ill with scurvy; the Indians made a decoction of herbs and leaves and cured his men; James Lind, a Scotchman, later found that orange and lemon juice is a specific for scurvy. In dealing with vaccination he describes the inoculation against small pox first used by the Turks which consisted of actual transference of the disease from one person to another; if the person survived he was immune. Sometimes there were survivals. This method was used in America at the time of the revolutionary war. Then he tells of the milk-maid's and Jenner's observations and the final result.

There are fifteen chapters in the book discussing such topics as medical progress, cancer, medical education, superstitions, medicine as a career, the family doctor, medical ethics, preventive medicine, the social outlook in medicine, etc.

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**SYNOPSIS OF CLINICAL LABORATORY METHODS.** By W. E. BRAY, B. A., M. D. The C. V. Mosby Co., St. Louis, 1938. Price \$4.50.

The value of this little book is that it is brief. All methods are described briefly but adequately. It is very much up to date. Its size and "triple plated" cover make it very handy for quick reference. No attempt is made to describe details. The author properly insists that laboratory findings be correlated with clinical history and examination in arriving at a correct diagnosis. The first edition of this book was good but the second is better because it is brought in tune with recent developments that have been proved worthy. The chaff is very well sifted out.—D. von B.

**DOCTORS, I SALUTE!** By Emilie Conklin, Pp. 92, Fabrikoid, Price \$1.50. Winona Lake, Indiana, Light and Life Press, 1938.

Emilie Conklin's collection of poems, dedicated to the medical and nursing professions, contains seventy-two verses describing many phases and incidents connected with the lives of these people. You will find this book sad, light, studious and funny in turns; no set syle of verse is used, but an interesting variety. Among the poems listed are: "The Doctor's Prayer," "Special Nurse," "Servac-rejuvenation," "Lines to a Laboratory Sheep" and "To a Great Physician." This book of Mrs. Conklin's is unique in that it is the only collection of poems dedicated to the healing professions. Interesting notes are given on the lives of Country Doctors and City Specialists; some quite humorous. Mrs. Conklin's writing shows much experience as a medical social worker. Several of her poems have been published in various Eastern newspapers at different times. It is felt that this book is one that could be enjoyed by anyone.—M. E. R.

**HEALTH INSURANCE WITH MEDICAL CARE.** The British Experience. By Douglas W. Orr, M. D., and Jean Walker Orr. The MacMillan Company, New York, 1938.

Notwithstanding the youth of Doctor Orr and social-work training of Mrs. Orr and hence their likely-leaning toward so-called humanitarian schemes, and further notwithstanding that the investigation was financed and inaugurated by persons in the employ of "Foundations" and "Settlements," the reader must be convinced that the English system of medical care is "working" remarkably well. The authors went to England "with no preconceived notions," says Helen Hall of the Henry Street Settlement, New York, and chairman of the National Federation of Settlements; at any rate they certainly went at their job with enthusiasm and energy and gathered a multitude of facts.

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They interviewed laborers, doctors, and individuals in all walks and stations of life and found that almost uniformly all are agreed that the health insurance provided by David Lloyd George in 1911 has been most satisfactory to all concerned. The one great fault with it seems to be that it does not go far enough. It is now planned to afford protection to the dependents of the insured workers and to supply consultant dental and laboratory services for all.

In the beginning the medical profession was almost unanimously opposed to the plan but shortly they were won over and now they are enthusiastic over it. There are those of course who think that the system affords mainly symptomatic treatment—"a bottle with a smile," that panel patients do not have the same consideration that private patients have and that many physicians have too many patients either private or panel. These criticisms, however, are rare and are smothered in an avalanche of complimentary statements. On page 86 we read: "It is universally believed, however, that more sick persons are being seen by doctors than ever before, that they seek medical aid earlier, and that general practitioners refer more patients—both panel and private to hospitals than ever before, because of the value of modern hospital care, the increased scope of surgery, and the progressive complexity of diagnosis apparatus." On page 207 The British Medical Association is quoted

as saying "the evidence as to the incidence of sickness benefit does point to the fact that the Scheme itself has almost certainly reduced national sickness, and we are quite sure that if the immense gain to national health includes the immense gain to the comfort of the individual in knowing that he can have medical attention whenever he needs it, the gain is most marked . . . ."

Many of the American conceptions of how the British System works are certainly misconceptions, according to the Orrs; and their evidence seems incontrovertible. American physicians then have said too much derogatory about the British experience with health insurance and medical care. At any rate such is my impression after having read this book. Although I cannot conclude that the system which has succeeded in England will necessarily succeed in America it is interesting to read of a great experiment.

On account of the agitation now going on in this country for a change in the form of medical practice for a considerable percent of the population it is important that physicians keep themselves informed on what is being done in other nations on this line.

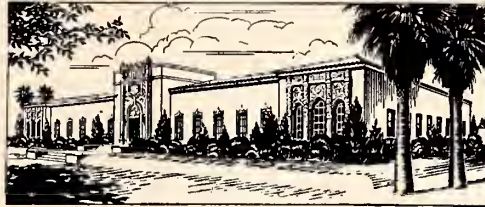
The Orrs write plainly and to the point and above all interestingly. Physicians generally should know what they say.

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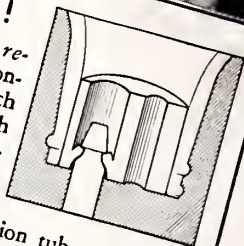
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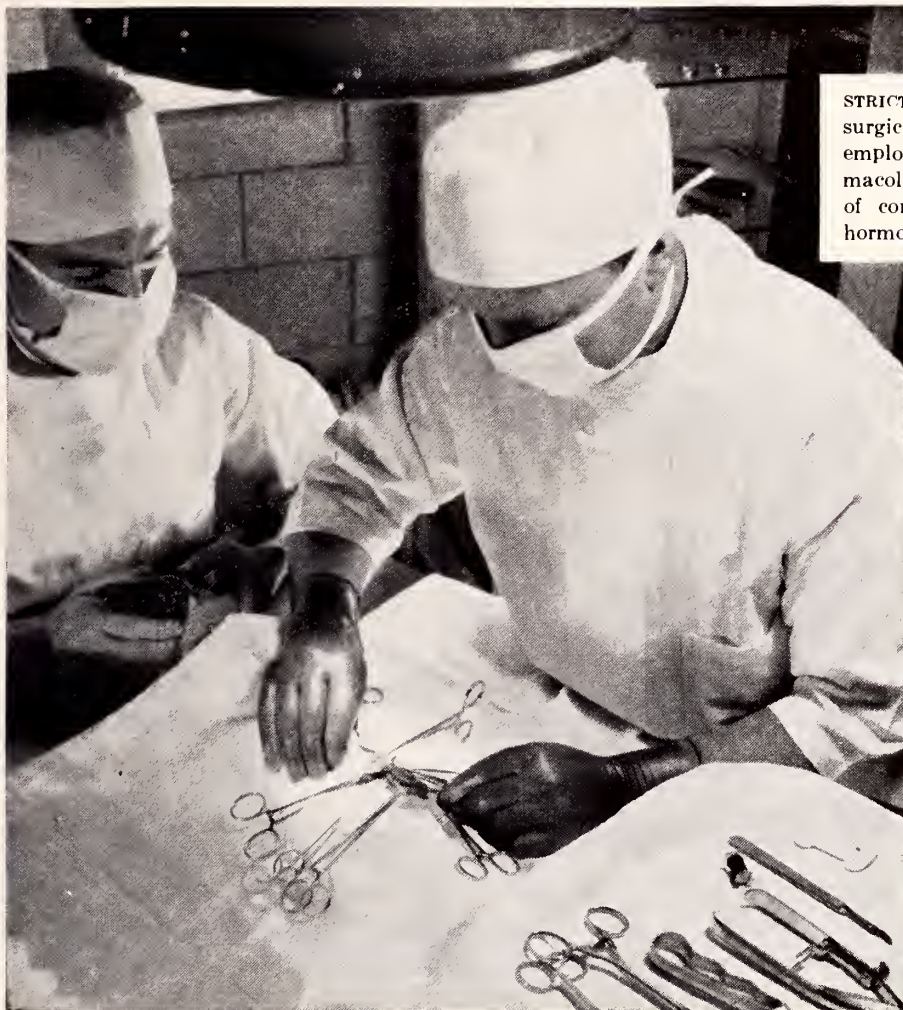


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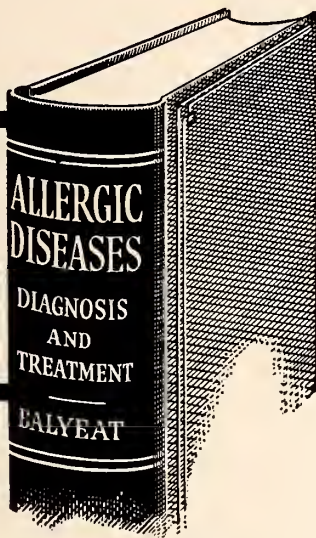
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At present, quantitative determination of vitamin B<sub>1</sub> necessarily requires the use of one of the several bioassay methods available for that purpose. None of these is entirely satisfactory (1, 2). Perfection of a chemical method for quantitative measurement of thiamin in foods would add greatly to our knowledge of its occurrence in nature,

as well as permit more comprehensive studies of factors which might influence the stability of vitamin B<sub>1</sub> in foods. We have a relative paucity of such data relating to vitamin B<sub>1</sub> when the available information on vitamin C is considered.

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(1) 1938. J. Amer. Med. Assn. 110, 727.

(2) 1938. Ibid. 111, 927.

(3)a. 1936. J. Nutrition 11, 383.

b. 1936. J. Amer. Diet. Assn. 12, 231.

(4)a. 1932. J. Nutrition 5, 307.

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VOL. XXIII

EL PASO, TEXAS, FEBRUARY, 1939

No. 2

## Treatment of Nephroptosis

CHARLES H. ARNOLD, M. D.

and

L. V. GIBSON, M. D.

*Lincoln, Nebr.*

**M**OVEABLE kidney, or ptosis of the kidney, may well be called the chronic appendix of urology, because there is, even at the present time, great debate among urologists as to the indication for the operation, great differences of opinion as to what constitutes a ptosis of the kidney. Some state that pathological mobility of the kidneys practically never exists.

The reason for this state of affairs is the natural outcome of the road traveled by the medical profession in its dealings with this problem. It has been said for hundreds of years that abnormal mobility of the kidney caused symptoms. However, it was not until 1874 that Dow, an American surgeon, boldly attempted to anchor a moveable kidney without knowing, perhaps, even what organ he was operating upon. He passed a tape through the anterior abdominal wall, through the mass which he felt and through the posterior abdominal wall and anchored it. His patient recovered and got along very nicely until his tape broke.

Hahn of Berlin, in 1881 was the first to knowingly attempt to suture the kidney in its proper place. He sutured the fatty capsule to the lumbar muscles. Following this there were frequent references in the literature and soon there was an epidemic of operations upon loose kidneys. The promiscuous use of nephropexy was undoubtedly the corner stone upon which was built the disrepute attached to the operation later. And this was due to two reasons: first, that the kidney was not anchored in its proper position in many cases; and second, that most of the cases operated solely because they had a loose, moveable or a low kidney, the operation not being based upon sound clinical findings and clinical symptoms.

Howard Kelley, in Baltimore has been insisting upon the soundness of the operation when properly applied, and the operation he suggested is today, perhaps, the most universally used. Some one has said that the operation has always been in the highest favor and the gravest disrepute. There were many years when an operation upon a ptosed kidney was considered closely related to malpractice. At the present time frequent reports in the litera-

ture show the excellent results which can be obtained when properly applied.

I can not say just what constitutes a ptosed kidney. There are surgeons and urologists who say that if a kidney moves as much as two and one-half centimeters, it is an abnormal mobility. Whether this is pathological or not, I believe, depends not only on the distance which the kidney moves but upon other factors. A kidney may move very, very little and yet if the upper ureter is fixed, the movement will produce a kink which will in turn produce very definite symptoms. Why a kidney becomes abnormally mobile is also a moot question and one that at this time can not be satisfactorily answered.

In brief, we state that the maintenance of the kidney in its proper position is possibly dependent upon: first, the support given by the vessels of the kidney pedicles; second, the support of the fatty capsule and surrounding fascia; third, the peritoneum; fourth, support given by adherence to or pressure of other organs, including the adrenals and their blood supply and, fifth, the intra-abdominal pressure furnished by the tone in the muscles in the back and the abdominal wall.

### ETIOLOGY

It is true in every series of cases reported that females present the great majority of the cases. This is probably due to anatomical reasons, the renal fossa in the female being shallow and broad and more open below than is the case in the male. For this reason displacement of the kidney is much more frequent in women than in men. However, this does not explain the fact that very many women have ptosed kidneys without symptoms, while a ptosed kidney in the male usually is productive of symptoms. Among the etiological factors are usually mentioned: body conformation and loss of muscle tonus as the result of malnutrition. As already mentioned, the renal fossae, especially in women, have in the course of racial evolution become wider and shallower, thus jeopardizing the fixation of the kidneys.

However this may be, there can be no question that any disease resulting in malnutrition must act detrimentally upon the muscle tonus and that such loss of tone will predispose to nephroptosis. Among

the more usual exciting causes have been mentioned travel, improper dress especially among women, pregnancy and constipation.

#### SYMPTOMS

The symptoms produced by kidney ptosis are many and varied. The accidents which complicate some cases such as rotation of the kidney, obstruction of the ureter, torsion of the pedicle, may never appear in others who have a much wider range

every case in some form. The pain may be referred across the back to the supra pubic region, to the inguinal, sacral or coccygeal region. It may be diffused through the entire abdomen or it may shift from place to place. At times there may be reflex symptomatic pain, especially complained of in the epigastrium. Urinary symptoms are a frequent complaint, although by no means do they occur in all cases. Where there is an acute blocking of the

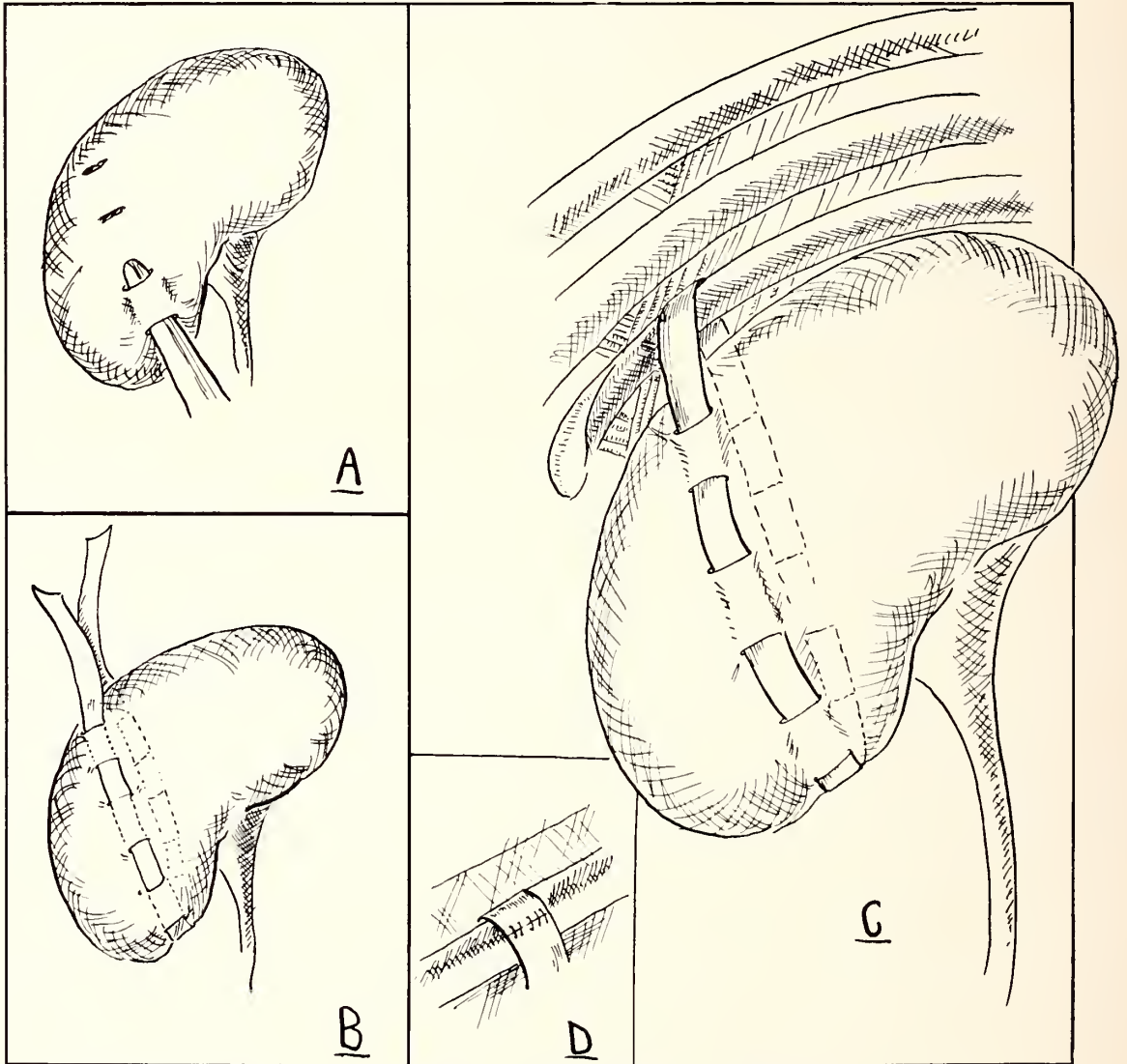


FIG 1.

A. Showing incision made in true capsule of lower pole of kidney and flap being raised by dissector.

B. Fascia strip interlaced under and over capsule.

C. Lower pole of kidney raised in proximity with last rib and fascia strip passed around this rib.

D. Ends of fascia strip sutured to each other around the rib.

of motion. The subjective symptoms may be out of all proportion to the local findings. On the other hand, the local findings may be extremely marked and subjective symptoms absent.

The symptoms usually relate to disturbances of the urinary tract and pelvic organs, of the alimentary tract, the liver and the nervous system; any one of which, or all, may be affected. The most common symptom is pain and occurs in practically

ureter by angulation, torsion or stricture, the pain may take the form of Dietl's crisis and be accompanied by severe vomiting and intense suffering and require morphine for relief. The symptoms, at times, may so closely resemble those of calculus that a differential diagnosis is indeed difficult. One of the commonest symptoms is irritability of the bladder characterized by frequency, urgency and burning on voiding. This is noted especially in



women. There may be a few pus cells in the urine. There is at times, during crisis, considerable blood. Among the general symptoms, fatigue is perhaps the most common complaint. The patients always feel tired, they awake that way in the morning and their fatigue lasts throughout the entire day. Loss of weight, dryness of the skin, sallow complexion, anemia, flabby muscles, are symptoms very frequently encountered, and these are frequently associated with anorexia, nausea and vomiting, gaseous dilatation of the stomach, constipation, symptoms simulating colitis, chronic appendicitis or cholecystitis. In addition, there is a tendency to nervous symptoms, such as characterizes neurasthenia, with mental depression and despondency due to a sense of repeated failure to meet the demands of life, and with exhaustion of the nervous system. Cause of these symptoms is varied. There may be tension and torsion on the renal pedicle producing various types of pain and a sense of heaviness and weight in the flank. There is frequently an excessive stimulation of the sympathetic system as the result of the constant pull on the splanchnic area. This probably causes dyspeptic symptoms, headaches, pain between the scapulae and excessive stimulation is probably also the cause of the neurasthenic symptoms. A sagging of the mid portion of the duodenum is frequently noted when pyelography and roentgenography of the gastro intestinal tract are practiced at the same time. This, together with the proximity of the splenic flexure to the kidney may cause the gastro intestinal symptoms and symptoms simulating colitis. Then there are in some cases, definite renal kinks which produce the renal pain simulating calculus and Dietl's crisis.

Due to the variety of symptoms displayed, it is not infrequent to find patients who have undergone long periods of medical treatment and various forms of surgical treatment. In a great many of the cases, the appendix has been removed. At times also there have been operations for cholecystectomy or intestinal adhesions and even for duodenal or gastric ulcer. One patient reported in the literature with symptoms of neurasthenia and of pathology in the gastro intestinal tract, had undergone successively, an appendectomy, cholecystectomy, an operation for peptic ulcer and seventeen ureteral dilatations.

#### DIAGNOSIS

The diagnosis is made by a complete examination including a complete urological examination and a correlation of the symptoms with the pathology found on the examination. In regard to the urological examination, it is to be emphasized that the films of the kidney must be made in both the prone and complete upright position. Frequently the diagnosis may be made by intravenous urography alone. However, retrograde pyelograms give more distinctive information. In making retrograde pyelograms, the kidney pelvis should be filled with opaque substance and x-rayed in the upright position and preferably the catheter should be withdrawn and another film made in about seven min-

utes to determine if the pelvis has emptied. It is also to be emphasized again that the position of the kidney is not the only criterion of its pathology, or as already stated, if the ureter in its upper part is fixed, a kink is produced by a very slight movement of the kidney.

#### TREATMENT

Treatment is divided into non-operative and operative. Non-operative treatment includes complete rest in bed, high caloric diet and the use of belts and pads. Occasionally these measures will give relief of symptoms but such is usually not the case. It should be mentioned, too, that the use of belts and pads is no more comfortable to the patient than is the wearing of a truss for hernia.

The operation of nephropexy is simple and should be practically without mortality or morbidity. In the cases reported in the literature in which an

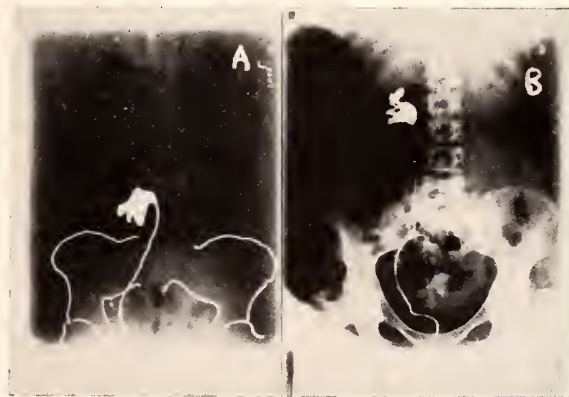


FIG. 2.

A. Position of kidney before operation.  
B. Position of kidney and correction of malformation, after operation.

adequate operation has been performed, the percentage of good results has been approximately 98. This is a higher percentage of successes than is found in almost any other operation. The requirements of the operation are: first, the incision must be placed so that the operation may be done without pulling or tugging and under direct vision; second, there must be a complete and careful freeing of the entire kidney including the pelvis and the proximal part of the vessels; third, there should be a complete and careful freeing of the upper part of the ureter and freeing of any bands or anomalous vessels which may be present; fourth, fat should be removed from the renal bed to provide a suitable resting place; fifth, the kidney is to be supported in its proper place.

Various operations have been done from those types consisting of simple freeing of the kidney and upper ureter of their nerves, to procedures which are extremely complicated.

#### OPERATIVE TECHNIC

Spinal anesthetic should always be used unless it is definitely contra-indicated for the reason that with this type of anesthesia we do not get nausea and vomiting with resulting straining of the patient which may be found in other types of anesthetic.



By obviating this strain for the first few weeks following operation, firm adhesion of the kidney in its new bed will be more likely to take place.

The operation which we employ follows the one which was originally devised by Dr. Branford Lewis of St. Louis. It consists of the retro-peritoneal approach through a lumbo-inguinal incision, i. e., the same type of incision usually employed for nephrectomy.

The kidney is stripped of all surrounding structures save the normal vessels and ureter. Parallel incisions one-half inch long and three-fourths of an inch apart are made through the true capsule around the lower pole of the kidney the upper end of these incisions coming not closer than one-half inch to the beginning of the pelvis of the kidney. In alternating spaces between the incisions, the true capsule of the kidney is lifted with a dissector and a commercially prepared fascial strip one-half inch wide is laced around the lower pole of the kidney, one lacing going under the capsule and the next space external to the capsule with both ends brought out along the convex border of the kidney. This strip is then passed around the last rib as near to the back as possible and is sewn together over this last rib.

Any loose areolar or adipose tissue is then brought up around the kidney and stitched lightly thereto to assist in the establishing of a fatty pad which is normally found surrounding the kidney. Closure of the wound is made in the usual way.

Two points to be definitely observed in the technique are: (1) be sure that the pelvis and ureter are stripped free of any impinging structure, such as anomalous vessels or bands and (2) the fascial strip must not be placed too near to the pelvis lest obstruction or impingement thereon result.

## POST-OPERATIVE CARE

When we first began doing this operation, we felt that it was necessary to keep the patient flat in bed for many weeks, but by degrees we have been shortening the bed rest period until now we no longer keep these patients in bed any greater length of time than we do for any ordinary surgical case. We do, however, warn the patient to avoid lifting, jolting and violent exercise that would place undue strain on the suspension.

Our results in something over fifty cases over a period of five years have been most gratifying. We have had only one case that did not get the desired result and this was the result of a girl nineteen years of age who was of the neurasthenic type with many complaints in addition to those referable to the kidney. It is possible that our diagnosis erred in this case.

Patients express a feeling of well being and immediately begin to put on weight with a rapid return to normal health.

## SUMMARY

1. All patients presenting a complexity of symptoms that definitely point toward the possibility of kidney involvement should have a careful roentgenological examination of the kidneys for position. This must always be done with the patient in a standing position.

2. Anesthetic should always be spinal unless definitely contra-indicated.

3. Removal of all constricting bands and anomalous vessels to the kidney at operation is most important.

941 O St.

# Peri-Nephritic Abscess with Ureteral Obstruction

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and

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**T**HIS is a case report of a female, age 43. The patient had as her complaint chills and fever; pain over the region of the right kidney, and dysuria. She was in the hospital convalescing from a hysterectomy performed ten days previously. The recovery from the operation had been uneventful up until three or four days previous to the time when she was first seen, at which time she began to run a septic course of temperature and experience chills accompanied by pain in the right side, and pyuria. For these developments, urological consultation was requested.

Examination revealed a very large woman with cheeks flushed from temperature; marked tenderness over the right kidney, and pyuria, which upon culture revealed the presence of colon bacilli.

Cystoscopy and pyelography were done under 2%

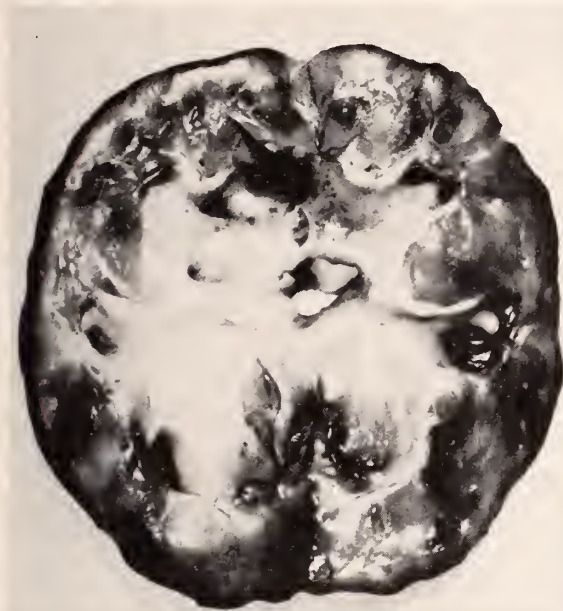
Butyn anesthesia. Upon the introduction of the cystoscope, the bladder was seen to be markedly inflamed. The ureteral orifices were in normal location but the right orifice was considerably inflamed. A number 6 catheter passed freely up to the left kidney and urine drippings from this catheter were seen to be clear. However, on the right side, various size catheters were definitely blocked at 7 c.m., and upon injecting the opaque medium through the catheter, none of the solution was seen to pass this point of obstruction. Upon studying the x-ray pictures, the obstruction was seen to be complete and absolute. The pyelogram of the left kidney was normal.

With the impression that an obstruction was present in the right ureter in the neighborhood of the brim of the pelvis, operation was decided upon.

Under spinal anesthesia a McBurney incision was made. Upon exposing the peritoneum marked

edematous tissue was seen and suddenly there was a huge gush of pus from the retro-peritoneal area. Approximately three quarts of foul purulent material was evacuated from the ruptured abscess in this locality. Nothing further was done except that several large drains were inserted and the wound was closed.

The convalescence from this operation was very satisfactory. The temperature returned to normal and at the expiration of ten days she was feeling so well that upon her insistence she was allowed to go home for a period of time to return for further observation. About six weeks after the operation the chills and fever returned.



Pyonephrotic right kidney removed after drainage, previously, of extensive peri-nephritic abscess.

She again entered the hospital and the cystoscopic picture was essentially the same as at first in that the catheter on the right side was definitely stopped in the neighborhood of the brim of the pelvis and no opaque medium could be injected past this point of obstruction. She was excruciat-

ingly tender over the region of the right kidney and further operative intervention was decided upon. The blood urea was within normal range.

Under spinal anesthesia the usual lumbar incision was made, but once more a huge gush of pus was met as the lumbar fasion was incised. It was thought best to do nothing further, and drains were inserted and the wound loosely closed.

For the next two weeks the patient was prepared for further surgery with attention directed at the mild secondary anemia which was present. She was given daily venoclysis of glucose and saline blood building diet, etc.

Under spinal anesthesia the lumbar incision which had previously been started was reopened and a large pyonephrotic kidney was delivered from dense inflammatory adhesions. Upon severing the ureter as low down in the wound as possible a large amount of creamy yellow pus was seen to issue from the urethral stump. The kidney was removed and a urethral catheter was passed down the remaining portion of the ureter for drainage. The end of the catheter was brought out through the wound. Penrose drains were inserted in the renal bed and the wound was closed. She was returned to her room in good condition. The convalescence following the nephrectomy was very satisfactory and uneventful. Thirteen days later she left the hospital and was without complaint.

#### PROGRESS

Seven months later the patient was enjoying good health, free of all complaints and pursuing her usual duties.

#### DISCUSSION

This case is of interest in that it reveals an instance of pyonephrosis with subsequent peri-nephritic abscess formation developing along with the symptoms referable to an ovarian cyst and fibroid uterus. During the convalescence from the abdominal operation, presumably there was a downward extension of the peri-nephritic abscess with the formation of another large abscess in the neighborhood of the brim of the pelvis which completely obstructed the ureter at this point by pressure and inflammatory reaction of adjacent tissues. There was no question of ligation of the ureter during the hysterectomy as the surgeon doing this operation had placed no ligatures at or in the vicinity of the ureteral obstruction.

Mills Bldg.

## Lateral Gastroduodenostomy in Surgical Treatment of Duodenal Ulcer\*

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THE purpose of an operation for duodenal ulcer is directly dependent upon the nature of the complication which has occurred or the conditions which have made an operation advisable, necessary or imperative. That the objective of an operation may be most nearly achieved requires familiarity with the various surgical procedures gained through

experience in their execution and knowledge of their immediate and ultimate results whereby a basis is established for the proper selection of the surgical procedure under the circumstances as they exist.

So far as concerns those cases of duodenal ulcer where the complication of either acute perforation, repeated massive hemorrhage or cicatricial pyloric contraction with persistent gastric retention has

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occurred, the indications for surgical intervention are entirely clear and the objectives of an operation are very well defined. In a case of acute perforation of an ulcer, the surgeon's chief concern is saving the life of the patient; closure of the perforation by the simplest possible method at the earliest moment following the perforation favors the accomplishment of the purpose of the operation. As to whether or not the ulcer will recur or require future surgical consideration is not a part of the surgeon's responsibility in the surgical procedure instituted for acute perforation. The surgical procedure which most nearly fulfils the objectives of an operation for the ulcer from which repeated massive bleeding has occurred is one which includes excision of the ulcer by whatever method is most applicable in the particular instance and minimizes to the smallest degree the possibility and probability of a new postoperative ulcer recurrence. In those cases of prolonged gastric retention resulting from a chronic stenosing ulcer with true cicatricial contraction of the pylorus or first portion of the duodenum, the purposes of a surgical procedure are admirably served by a conservative short-circuiting operation with a minimum probability of subsequent reactivation of the original duodenal ulcer or new ulcer formation.

There are certain cases in which neither acute perforation, hemorrhage nor disturbance of gastric motility has occurred, but by virtue of penetration of the ulcer, with undue pain not readily controlled, failure of the patient to respond to careful medical management, or because of economic or occupational difficulties on the part of the patient in carrying out prolonged and repeated courses of medical treatment, surgical treatment of an otherwise uncomplicated duodenal ulcer requires consideration. It is in these cases that injudicious selection of the surgical procedure has frequently failed to provide a satisfactory postoperative result and this, in my opinion, has led to unwarranted condemnation of certain operations which when accurately executed in carefully selected cases have been followed by excellent results.

It is not my purpose at this time to enter into a discussion of the relative merits of the various operations which have been devised and employed in the treatment of duodenal ulcer except in a general manner. It is well known that posterior gastro-enterostomy has been followed by its best results in those cases of long-standing chronic stenosing duodenal ulcer in which cicatricial contraction has produced complete or almost complete pyloric occlusion. It is likewise well known that following an accurately performed gastro-enterostomy for complete pyloric obstruction new ulcer formation in the stoma as a gastrojejunal or jejunal ulcer seldom occurs. In general, the unsatisfactory results following gastro-enterostomy for non-obstructing duodenal ulcer have, for the most part, been due to new ulcer formation in or about the gastro-enterostomy stoma, the causes of which are numerous and varied. In judging the merit of the operation of gastro-enterostomy one should remain

mindful of the fact that perhaps no two surgeons not intimately associated in their work perform the operation in the same manner. Much confusion still exists among many surgeons as to just where a gastro-enterostomy shall be placed in the stomach and in the jejunum. Lack of any uniformity of opinion among surgeons regarding the proper level and angle of the stoma in the posterior wall of the stomach, the length of the jejunal loop, the peristaltic direction of the jejunum, and other uncertainties when considered in conjunction with the various normal and abnormal anatomical variations, has produced a medley of gastro-intestinal anastomoses designated as gastro-enterostomy. There are few if any other procedures in the realm of surgery which have been subjected to so many variations, or with which so many liberties have been taken. A haphazard gastrojejunal union may fail to function in the capacity for which it was instituted, either by virtue of the situation of the stoma in the stomach or jejunum, or both, or as the result of angulation and fixation of one or the other limbs of the jejunal loop, and thus the stage is set, so to speak, for a recurrence of the original ulcer or for new ulcer formation in or about the stoma of the gastro-intestinal union. The fundamental principles of posterior gastro-enterostomy in the surgical treatment of many cases of duodenal ulcer remain unsuccessfully challenged, though the operation cannot successfully withstand misuse.

The various types of pyloroplasty or operations confined to the pylorus, the first portion of the duodenum and the prepyloric portion of the stomach, of which the Heineke-Mikulicz and the Horsley methods are most notable have been followed by a relatively small percentage of satisfactory results when compared with the results of practically all other types of operation devised for the treatment of duodenal ulcer. When one or the other of these surgical procedures has been extensively used, with or without excision of the ulcer, most of the unsatisfactory results have been due to reactivation or recurrent ulcer in the suture line of the pyloroplasty. The alkalinity of the duodenal contents in the suprapapillary and subpapillary portions of the duodenum is not equal or of the same degree, and there is considerable evidence which tends to support the idea that the reaction of the duodenal contents in the first portion of the duodenum, particularly in patients who harbor an ulcer, is on the acid side rather than on the alkaline side. It is therefore, rather difficult to understand how the various types of pyloroplasty could be expected to inhibit the factors which were responsible for the original ulcer with any degree of uniformity, or provide great assurance against future reactivation of the original ulcer or recurrence of ulcer in the first portion of the duodenum.

It is now well known that the intestinal mucosa possesses or lacks to a large degree resistance to ulceration, and that perhaps the maximum degree of resistance exists in the second and third anatomical portions of the duodenum. Whether or not this is true inherent resistance in the mucosa or whether

it is protection afforded the mucosa in these sections by the alkaline bile and pancreatic secretions remains a debatable question, but without here presenting the evidence, the latter seems more probable. At any rate, it is now recognized that the degree of alkalinity of the duodenum is highest at the level and immediately below the ampulla of Vater as a result of the outpouring into the duodenum of bile and pancreatic secretion. That these secretions may be utilized for additional alkalization of the contents of the first portion of the duodenum and thereby add protection to its mucosa from the acid gastric secretion, or that reflux through a temporarily or permanently abolished pyloric sphincter following the various types of operations, designated as pyloroplasty, to neutralize and dilute gastric acidity and gastric secretion, is dependent upon a mechanism for reversed peristalsis. In the absence of high intestinal obstruction there is little to suggest that such a mechanism operates. Fundamentally, therefore, it would seem that the operations of pyloroplasty, in which the procedure is confined to the pylorus, the first portion of the duodenum and the prepyloric portion of the stomach, do not embrace the important principles in the surgical treatment of ulcer whether or not the ulcer is excised, namely the control of gastric acidity and gastric secretion either through dilution and neutralization or quantitative reduction.

Reactivation of the original ulcer or recurrent ulcer in the first portion of the duodenum following pyloroplasty, and a variable percentage of marginal or jejunal ulcers following the various types of gastro-enterostomy have caused a number of American and many Continental surgeons to abandon the conservative operations which in the main are directed toward neutralization and dilution by duodenal contents in the control of gastric acidity and gastric secretion, in favor of quantitative reduction of gastric acidity and gastric secretion through partial gastrectomy. In discussing partial gastrectomy as a method of reducing gastric acidity and gastric secretion it is worthy of emphasis that only through an extensive, high or subtotal gastrectomy may the purposes of the operation be achieved. Finney, among others, has again just recently directed attention to a noteworthy consideration regarding which there is common misconception that the acid-secreting glands are in the fundus of the stomach and not in the pyloric end. Only through a gastric resection which includes a considerable portion of the fundus may one expect to reduce materially gastric acidity and gastric secretion. Experience has proved that there is a definitely increasing incidence of gastrojejunal ulcer following partial gastrectomy in more or less direct proportion to the greater amount of gastric fundus not included in the resection. There is much reason to believe that conservative pylorotomy with restoration of gastro-intestinal continuity by either the Billroth No. I or II methods or the method of Polya accomplishes little more in the control of gastric acidity and gastric secretion than

a procedure which preserves the pyloric portion of the stomach, and serves little if any purpose in the quantitative reduction of gastric acidity. Even though the experimental work of Priestley and Mann, Shapiro and Berg, and that of Steinberg, Brougner and Vidgoff leaves considerable doubt regarding the effect of the pars pylorica and its mucosal hormone upon gastric acidity and gastric secretion, Finney has recently stated that the glands in the pyloric portion of the stomach are apparently the same as or similar to the Brunner's glands in the duodenum, and that their secretion is alkaline. He, therefore, advises preservation of this portion in so far as possible in the selection of a surgical procedure for duodenal ulcer.

A deterring factor in readily accepting the operation of subtotal gastrectomy as the surgical procedure of choice in many cases of duodenal ulcer is the magnitude of the operation and its mortality rate. There are those who have had a wide experience with the operation and have reported a surprisingly low mortality rate. Outstanding is the rate of 3.8 per cent in 140 cases reported by Roscoe R. Graham. Gehrels has recently directed attention to radical gastrectomy for duodenal ulcer as reported by Eiselsberg, Finsterer, Starlinger, and Strauss in which the individual mortality rate varied from 1 per cent to 5.4 per cent, or an average of approximately 3.6 per cent in the combined series of 1691 cases. Gehrels stated that the mortality rate should not be higher than 5 per cent, in which all heartily agree. A few surgeons have performed partial gastrectomy for duodenal ulcer within a 5 per cent mortality rate, but there is much available data of record indicating that this figure is the exception and far from the rule and in general and by and large the mortality rate quite probably approaches a level in average hands which is not justifiable nor compatible with the objectives of an operation for duodenal ulcer, except for the complication of acute perforation, or for massive hemorrhage and otherwise uncontrolled continued bleeding.

In 1892, Jaboulay suggested and in 1894 first performed gastroduodenostomy as an anastomosis between the upper portion of the second or descending part of the duodenum with the anterior wall of the stomach. The duodenum was not mobilized, but the stomach was drawn over and sutured to it. In 1901 Finney performed for the first time the operation of pyloroplasty, which since then has been modified only in its extent and in minor details, not in principle. He was perhaps the first to free up the entire first part and upper half of the second or descending part of the duodenum. It is of interest that as the originator of the Finney pyloroplasty and J. M. T. Finney, Jr., have had increasing experience with the operation they have extended their incisions in both the stomach and duodenum, thereby providing a large stoma between stomach and duodenum including the pylorus. In so doing they have made duodenal secretion of maximum alkalinity available for neutralization and dilution of gastric secretion at a level



from which reflux of duodenal secretion into the stomach can readily occur. Because of the greater scope of the operation to include more of the stomach and duodenum than in the original procedure, the operation may hardly be considered as a true pyloroplasty and is best designated by the recently applied term, gastropyloroduodenostomy.

In 1932 Rienhoff described an infrapapillary gastroduodenostomy and stated that he had successfully operated upon thirteen cases of chronic peptic ulcer by this method with excellent results. His procedure facilitates anastomosis of the third portion of the duodenum and the pyloric third of the stomach through mobilization of the entire duodenum, including the fourth portion to and beyond the ligament of Treitz.

In a personal experience with the surgical treatment of approximately 850 cases of duodenal ulcer, I have had occasion to perform among the various operations a considerable number of conservative procedures at or about the pylorus as true pyloroplasty or gastroduodenostomy after the method of Finney, and in later years a lateral subpyloric anastomosis utilizing the second and third portion of the duodenum. With an increasing experience in the mobilization of the second and third portions of the duodenum lateral subpyloric gastroduodenostomy has become applicable more often than formerly and has been followed by such excellent results as to merit a high position as an operation of choice in the surgical treatment in many cases of duodenal ulcer.

To those surgeons who have abandoned gastro-enterostomy or who employ the procedure with misgiving for duodenal ulcer on account of the variable frequency with which in their experience marginal ulcers either as true gastrojejunal or jejunal ulcers have occurred, lateral subpyloric gastroduodenostomy should appeal. To my knowledge there is no recorded instance of recurrent ulcer in or about the gastroduodenal stoma in this situation. To those who have questioned the effectiveness of the control of gastric acidity and gastric secretion through neutralization and dilution following the operation of gastro-enterostomy, it is readily apparent that the free interchange of duodenal contents of a maximum degree of alkalinity with the gastric secretion through a liberal sized stoma between the second or third portion of the duodenum and the stomach provides neutralization and dilution at the proper time and place to be most effective. The experimental work of Graves and that of McCann suggests at least that the effectiveness of duodenal alkaline secretion is greater when emptied into the stomach downstream or into the prepyloric area than when emptied upstream into the fundus of the stomach. To those who are not wholeheartedly and unalterably committed to the theory and principle of partial gastrectomy for duodenal ulcer for one reason or another, lateral gastroduodenostomy provides a conservative surgical procedure in many cases of duodenal ulcer, which is entirely correct in principle and one which may be performed with a risk and

mortality rate within that for gastro-enterostomy, with maximum assurance against future reactivation of the original ulcer or new ulcer development in or about the stoma.

Certain disadvantages of lateral gastroduodenostomy may be presented and these are largely theoretical and not actual. It may be stated that the field of applicability is not large. Actually this is largely dependent upon the degree of mobilization of the second and third portions of the duodenum which may be obtained. There are no true anatomical barriers to free mobilization of the third and fourth portions of the duodenum except the superior mesenteric artery and vein which can be accurately visualized and preserved. The filmy reflection of peritoneum overlying the duodenum from the second portion downward is readily divided which facilitates elevation of the duodenum from its retroperitoneal position. The difficulties in most instances in the manoeuvre, even in the presence of adhesions, are theoretical and not actual. The first portion of the duodenum harboring a non-bleeding ulcer may be left entirely undisturbed, which is of great importance in the acute or sub-acute duodenal ulcer with a good bit of periduodenal inflammatory reaction. Lateral gastroduodenostomy does not include excision of the original ulcer. Experience has proved that excision of a duodenal ulcer is not necessary for healing to occur. In the bleeding duodenal ulcer in which excision is advisable or necessary the Haberer procedure facilitates excision of the ulcer-bearing portion of the duodenum, and through end-to-side anastomosis of the pyloric portion of the stomach to the second or third portion of the duodenum, embraces the fundamental principles of lateral gastroduodenostomy. Even though the operation cannot be readily employed in all cases of duodenal ulcer, with growing experience it has been found that lateral gastroduodenostomy has a wide field of applicability. Likewise, the operation serves notably as a secondary procedure in many cases in which recurrence has followed simple closure of a perforated ulcer and in those cases of recurrence following the various pyloroplasties and gastro-enterostomy. We have used the operation in a number of instances after taking down gastro-enterostomy and excising a gastrojejunal or jejunal ulcer, and in one instance of gastrojejunal colic fistula which developed following a gastro-enterostomy performed simultaneously with closure of the perforation of a duodenal ulcer.

With full realization, as the result of a considerable experience in the surgical treatment of duodenal ulcer, that no single operation is suitable in all cases and that one must be qualified and prepared to perform that type of operation which in the individual instance will provide the maximum prospects of a good result, I strongly advocate due consideration of the growing usefulness of lateral gastroduodenostomy in many cases of duodenal ulcer.

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## DISCUSSION

*Dr. J. W. Hendrick (Amarillo, Texas) opening:*

Dr. Hunt brought us a good message on the surgical management of duodenal ulcer. One thing he stressed was that each case should be individualized and the surgical procedure applied which will take care of the particular case.

I think gastric and duodenal surgery in general has been abused. The average individual, when you mention surgical treatment of duodenal ulcer, will cite cases in his neighborhood who have had some type of surgery and received no benefit from it. I know in a section of town in Amarillo three men had bleeding duodenal ulcers; all three had gastro-enterostomies, none done by gastric surgeons; all three continued to hemorrhage, and were semi-invalids. If they had had proper surgical treatment, all would have been cured and could have returned to earning a livelihood. Cases that hemorrhage, should be operated, as soon as they recover from the hemorrhage. Dr. Sara Jordan, of the Lahey Clinic, found that patients that have recurrent hemorrhages, over 5% die. Duodenal surgery done by a man qualified in that type of surgery never has a mortality over 2 or 3%, so the mortality of surgery is not as great as that of hemorrhage. These cases should come to surgery early.

In my neck of the woods many people live on ranches or in very small towns, many miles from good hospital facilities and a competent surgeon. In these cases, we recommend early surgical correction, as they are very poor risks when they have to be brought many miles after a perforation.

Another class of individuals we suggest early operation are people doing hard work, that require a large caloric intake. They require enough food to be able to put out the work; office workers can be put on light diet and medical measures, and get along fairly well.

Oftentimes with a perforated ulcer, it is a common occurrence for the surgeon to close the perforation, usually with a purse string, and do nothing else; so often these patients have a complete stenosis, and a gastro-enterostomy is necessary. I have seen cases come to autopsy, that died five or six days later, where there was complete stenosis.

In duodenal surgery it is well to clean up any foci of infection, such as diseased appendix, gall bladder, tonsils and infected teeth.

There is no doubt that too many ill type gastro-enterostomies are being done, with less individualization of the lesion. If properly done on selected cases, good results are obtained. In Continental Europe they are doing a great many stomach resections for different types of gastric and duodenal ulcers. At first American surgeons thought they were too radical. They had tried the procedures, such as pyloroplasty and gastro-enterostomy, and

did not obtain results. In Europe they have accompanying the ulcer, a marked gastritis. Walters, of the Mayo Clinic, brought this fact out after studying ulcers from both countries. When I was in Vienna some years ago, I personally examined the results of six hundred cases of resection that had been done over three years to see how many were developing anemia. These cases had extensive resections for both gastric and duodenal ulcer, where half, two-thirds, and three-fourths of the stomach was removed. The anemias were negligible and the results quite excellent.

The procedure Dr. Hunt has brought us is a good one. His modification is excellent. It should be used more. We use it in the proper cases, and the results have been gratifying. Wilkie, of Edinburgh, is a great advocate of it. He stated in 162 of his cases, 65% were excellent, in 30% the results were fair, and in 5% the results were poor. Perhaps he was trying to broaden the procedure out and trying to use it in cases that should have had another type of operation.

*Dr. S. L. Burton (Albuquerque, N. M.):*

Here again we have medical cases treated by a surgeon. All gastro-duodenal ulcers are medical. What is the use of operating on a man before you have cured the cause of the ulcers? Surgery of the stomach and duodenum is necessary in the case of perforations, obstruction of the pylorus and hemorrhages. In others, we should get them well of the cause before we operate. Most of them get well without it. You young folks should realize that these are medical cases.

*Dr. Paul Gallagher (El Paso, Texas):*

I should like Dr. Hunt to discuss his immediate post-operative results. This operation is really a modification of the original Finney Pyloroplasty. It itself has been modified several times. The only excuse for modifying an operation is its failure to give the result anticipated. That was my experience with the original Finney, which I finally discarded. Unusual post-operative shock was a factor leading to that decision. We who have to do general surgery, and may do only a few of these operations in a year, must do the kind that averages the best results. I have gone back now to doing a posterior gastro-enterostomy, which gives at least 80% excellent results. If an operation of the type recommended by Dr. Hunt will not give us a better rate, we gain nothing by changing and will possibly sacrifice some of our facility in the other operation. In a large clinic where a great amount of work is being done, a certain amount of experimentation or shifting of operations may be done and patients return well pleased with the story of the urgent necessity of three or four different interventions. It sounds paradoxical but it is nevertheless true that in the small cities and towns we have to do actually better work than is done at the large, famous clinics, or our patients will neither return to us nor refer others to us for work. They will, instead, all go to these same big clinics. We have to produce results, as every neighbor knows exactly what has happened to the other neighbor. In a small community a sick person is never a number, but is an individual whom we must continue to meet at parties or on the street as long as they live.

*Dr. Hunt (closing):*

It pleases me that my paper has precipitated discussion even though some of the discussion has been adverse. This can be excused, I think, on the basis of unfamiliarity by several with the operation and its underlying fundamental principles. At the outset I wish to take issue with the statement that has just been made to the effect that the occasional operator *has* to do these operations for duodenal



and gastric ulcer. I firmly take the position that except for the emergency of an acute perforation of an ulcer, the occasional operator and one who is not trained and experienced in gastroduodenal surgery does *not have* to operate upon any of the cases of gastric and duodenal ulcer or their complications (other than acute perforation).

There is no single operation which is suitable and applicable in all cases of duodenal ulcer nor, as is well known, are all operations followed by the desired results. The operation of posterior gastro-enterostomy is one which in carefully selected cases and when accurately executed is followed by results which surpass those of several of the so-called conservative procedures. However, in a certain percentage of instances new ulceration develops in or about the gastro-enterostomy stoma. The operation of lateral gastroduodenostomy is one which is not applicable in all cases, but in the selected cases in which the duodenum can be readily mobilized, the operation is as readily executed as the opera-

tion of gastro-enterostomy, and to my knowledge has been followed in a single recorded instance by a marginal ulcer. We have had no deaths in our cases and in but one did postoperative retention occur, and that was in a case of a gastrojejuno-colic fistula in which the colon was closed, the original gastro-enterostomy taken down with excision of the gastrojejunal ulcer. Even though gastric retention in this case did not occur until the eighth postoperative day and lasted for seven days, it subsided following constant gastroduodenal suction drainage.

As the result of our experience in surgical procedures for gastric and duodenal ulcer we have learned that the immediate postoperative introduction of gastric suction drainage prevents gastric retention and provides a smooth convalescence. To institute such drainage in all cases, whether the surgical procedure has been one of conservative operations or partial gastrectomy has obviated post-operative retention.

## Surgical Management of Acute Appendicitis

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and

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ANY treatise on acute appendicitis should be prefaced by the statement that it is still one of the major problems of the practitioner, pathologist, and surgeon. Probably no operation of major importance is performed more universally than appendectomy. It is well known that the mortality has apparently increased in the last twenty years despite better methods of treatment and diagnosis. Last year approximately 25,000 persons died of this malady, and we must admit that there are still many men in the field of operative surgery who are treating all cases of recognized or unrecognized appendicitis just as they did twenty years ago. Herick believes that the responsibility for some of the increased mortality must be borne by the staff surgeons themselves for having referred many of these cases to the resident or interne for treatment. Any surgical condition which carries a mortality of 5 to 30% as appendiceal peritonitis does, certainly merits the attention of the most proficient minds in the specialty.

The mortality in any given series of cases will vary depending on the surgeon, locality, year of the report, and type of hospital. One of the best series of results was reported by Dixon of the Mayo Clinic in 1932 where the mortality for 528 cases of all classes of acute appendicitis was only 1.5%. In addition, there are many other interesting reports of McDonald, Bower, and Miller to which the reader is referred.

### AUTHOR'S CASES

The small but significant series of cases we are presenting herein represents a consecutive number of 142 patients with acute appendicitis who were subjected to operation without a single patient mortality. We hope that by emphasizing certain maxims of diagnosis and treatment, one will be able to keep his mortality within reasonable limits.

There is nothing mysterious about good results in the treatment of appendicitis. Surgeons have long classified all acute cases into three groups: 1. Unperforated appendix, 2. Perforated appendix, with local abscess formation, and 3. Perforated appendix with diffuse peritonitis. The ability of the surgeon to correctly catalogue each case into one of the three groups is the keynote of success in treatment.

The relative number of cases falling into each of these categories is variable, but the mortality of each group remains significantly constant. Holder and Wells reported a composite series of 9566 cases with a mortality of 4.8%. In the unruptured group the mortality was only 0.55%, while the mortality in the abscess group increased to 9.0%. Moreover, those with diffuse peritonitis had the astounding mortality of 30.5%. Our series are represented below, but as there is no mortality, we can only show the relative number of cases in each group.

I. Unruptured appendicitis .....	131
Catarrhal .....	93
Suppurative .....	26
Gangrenous .....	12
II. Ruptured, local abscess .....	6
III. Ruptured, diffuse peritonitis .....	5
Total .....	142

### UNPERFORATED APPENDIX

This includes all cases of right-sided pain which are known or suspected to be appendicitis, having tenderness and possibly localized rigidity. There is no mass, peristalsis is active and there are no signs of peritonitis. The age of the patient, history of previous attacks, history of cathartics, etc., may influence the development of peritonitis later, but the appendix in these cases is still in a catarrhal state of inflammation. Many cases of suppurative or gangrenous appendicitis may be included in this group if abscess formation has not taken place. It

makes little difference whether we see this patient on the 1st or 5th day of the disease if he presents these findings. The treatment is immediate operation with removal of the appendix, and the surgeon will have practically no mortality therefrom.

#### PERFORATED APPENDIX WITH LOCALIZED ABSCESS

When the acute suppurative or gangrenous appendicitis progresses, abscess formation will frequently result. This is dependent on the tissue's ability to wall off the infection; but since a perforation has occurred and a number of intestinal organisms have been liberated, abscess formation is inevitable. Again, it makes little difference whether we see this type of case on the 4th or 8th day, provided we can be assured that the process is a local one. There may be a mass to suggest the abscess; leukocytosis may be marked but this is not pathognomonic. Peristalsis gives us no helpful clue—but one thing is certain, there is no spreading peritonitis. Operation again is the treatment, and that without delay. Most of these cases require drainage even if the abscess is small; and if the perforation is seen before a large abscess develops, amputation of the appendix is in order.

#### PERFORATED APPENDIX WITH SPREADING PERITONITIS

When the organisms present in the peritoneal cavity are great in number, and the individual's resistance is low, a spreading peritonitis results. If one's diagnostic ability will enable him to discern the presence of such a diffuse process with all its stigmata if Hippocratic facies, rapid pulse, diffuse tenderness, distention, absence of peristalsis, in addition to the signs of the acute appendicitis, treatment then becomes simplified. To these we administer the Ochsner-Sherren method of treatment and delay operation until the process becomes localized. It is our contention that a patient whose leukocytic response is poor in the face of a spreading infection is perhaps harmed by the additional trauma of incision. Drainage instituted in one lower quadrant when the infection is in the other three cannot cope with the problem. Gamble obtained good results by incision and drainage in 129 cases (mortality 1.5%), but followed his operative treatment with intensive local heat supplied with a 40 candle-power bulb; however, his results were no better than those of Bailey or Guerry who deferred operation. Immediate operation in a comparative series as reported by Shipley or Guerry increased the mortality to 8.3 and 10.7% respectively.

Nature tries to defend the host by immobilizing the bowel, with decreased peristalsis. If the bowel is relatively empty, the distention and other hazards of ileus are minimal. It is important then to splint the abdomen by withholding food and drink, placing the patient in Fowler's position to relax musculature, using ice caps over the abdomen, the introduction of suction-siphonage as advocated by Wangenstein, and the administration of morphine. Collier emphasizes the dehydration factor in these patients and advocates giving several litres of glucose in saline intravenously in order to produce a

urinary output of 1500 c.c. daily. Patients who die with such conservatism would certainly perish with the added insult of operation. Collier and Potter found that of 85 such patients, 9.4% died; and of those who recovered 37% became well spontaneously and the remaining 62% developed abscess.

To recapitulate then, we advocate the Ochsner-Sherren treatment in cases of ruptured appendix with diffuse peritonitis, and we delay surgery until the process becomes localized.

#### THE NON-OPERATIVE REGIMEN

1. Absolute rest to both patient and bowel. This is accomplished by giving nothing by mouth, instituting Fowler's position, and using plenty of morphine.

2. Combating dehydration. This is best done by administering intravenous solutions to the amount of several litres daily.

3. Combating distention. This is accomplished by the Wangenstein suction-siphonage tube in the stomach or duodenum.

In regard to the operative treatment, there are few points to emphasize since the technic of appendectomy is well standardized. Needless to say, one should exercise as little trauma as possible. Gauze packs in the abdomen only help to spread infection, and exploration is needless and harmful. The type of anesthesia, we feel, has little to do with the prognosis. Good results are obtained equally with inhalation agents, spinal, or local anesthesia depending on the preference of the surgeon. One should employ the McBurney incision wherever possible. Reid found that he could reduce his mortality 5% by adopting this one point of technic. Where the diagnosis is doubtful, the Battle incision is more useful. Whether to invert the stump or not is immaterial as far as outcome is concerned. It is probably better in the presence of an abscess to forego inversion of the stump as a small secondary abscess in the wall of the cecum may result. Enterostomy has no place in the operation; obstruction is due to adynamic ileus and not a local kink or band. Shute performed 117 cases with cecostomy and found that it added nothing to his results. Drains should be used in suppurative cases, but the drainage material should not be placed in contact with large vessels or loops of bowel because of the danger of erosion.

Post-operative treatment has more influence on the outcome than any particular technical consideration. Patients respond better if fluids are maintained and the bowel is splinted until the operative area is well walled-off. Herniation of the incision should not result if the patient is kept in bed for a sufficient length of time. We had no herniation in the series of cases reported.

#### CONCLUSIONS

1. The diagnosis of appendicitis and the recognition of peritonitis when present is important in determining operability of an acute case.

2. Immediate operation is advocated in acute unruptured cases or in abscess cases when the process is localized.



3. In diffuse or spreading peritonitis from a perforated appendix, operation should be delayed until the process is a local one. The Ochsner-Sherren treatment is employed in the interim.

4. The surgeon should not be influenced by the age of the patient, duration of the symptoms, history of catharsis or previous attacks, amount of leucocytosis, etc. The palpating hand should determine the course of treatment in each given case.

5. A series of 142 cases is presented exemplifying these maxims, in which there was not a single patient mortality.

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## Medical Care for Low Income Groups

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THE discussions regarding the important problem of providing medical care for the low income groups of American citizens which were held during the annual meeting of the American Public Health Association at Kansas City last October appear to be somewhat misunderstood by the general public as well as by the medical profession at large. It has been repeatedly stated that the American Public Health Association appears to favor the federal proposals for extending medical treatment to the needy groups of citizens but to oppose compulsory sickness insurance, if administered by the federal government. "The organization appeared to be united", to quote the statement of Dr. Arthur T. McCormack, president of the A.P.H.A., "in opposition to anything which would result in political, bureaucratic and uneconomic control of the practice of medicine." A compulsory sickness insurance administered by the government would result in such control. Dr. McCormack further stated: "We must preserve freedom in the choice of physicians for the American people, whether rich or poor. We must leave all control of medicine in the hands of local and state governments. You can't write a federal prescription for the whole country."

The American Public Health Association is interested particularly in three of the five proposals formulated by the federal technical committee.

The first proposal would expand the work of preventive medicine by greatly extending the present services of health departments in counties and municipalities. This expansion would have as its chief purpose the eradication of tuberculosis and malaria, the control of pneumonia and cancer, and the protection of maternal and child health work.

Both the American Medical Association and the American Public Health Association are strongly in favor of this proposal.

The second proposal would extend the facilities in general hospitals, tuberculosis hospitals, and institutions for the treatment of mental and nervous diseases. The federal committee reported that all hospital rooms were too costly. The committee said that if more low-priced ward room were available in place of private rooms, the hospitals would be filled. Both associations have agreed with the federal committee that hospital facilities should be extended, but have insisted, however, that all present facilities be used before any new building begins, and that no new hospitals be erected without assurance from a state or municipality that they will be maintained without federal assistance after a three year period.

The third proposal is the caring for the "medically indigent", including persons on relief and those who are unable to obtain medical attention and are yet still able to obtain food, shelter and clothing. Both the American Medical Association and the American Public Health Association are in favor of the proposal, although the American Medical Association has expressed the desire of the medical profession to give all the care possible to the needy with as little federal assistance as possible.

The fourth proposal is the one opposed by the American Medical Association. It calls for a long-time study of ways of obtaining part payment for medical services through an insurance plan. It is felt that such a plan not only would turn the practice of medicine over to "political, bureaucratic and un-economic control", but that it also would be un-American. The American Medical Association approves and fosters the extension of volun-

tary hospital insurance and commercial sickness indemnity insurance.

The fifth proposal is for the extension of unemployment insurance provisions of the Social Security Act to include unemployment caused by illness. These proposals have been accepted by both national associations.

Dr. Irvin Abell, president of the American Medical Association, spoke before a section meeting on the national health program. He characterized the program proposed by the federal technical committee as "federal aid to the public under the supervision of the medical profession." He stated that he did not believe that any attempt has been made or will be made to socialize medicine in this country. He believes that a national program will be worked out to embody the use of widespread funds in present medical channels to improve the public health of the country. Dr. Abell stated that the federal government proposes to allocate two hundred million dollars annually for public health and an additional one hundred sixty-five million dollars annually for maternity and child welfare work. He stated that complete agreement to this exists in organized medicine because the American Medical Association has always considered it a greater achievement to prevent rather than to cure.

The government next proposes to extend hospital facilities, using vacant beds now in hospitals and building space for 360,000 more beds for the use of the indigent, and constructing 500 laboratory centers where they are needed. Dr. Abell stated, "Provided such allocations are based on economic and geographic needs, the A. M. A. agrees to this." The government further wishes to prepare legislation allocating \$400,000,000 annually for the use of the medically needy, both in the case of indigents and the low income groups. Again the American Medical Association agrees, provided the fund goes into existing medical services without interference from political or lay control. Dr. Abell further stated that "the government has never recommended socialized medicine. It has only recommended that a study of sickness and public health conditions be made by the various states.

On this same program, A. J. Altmeyer, chairman of the Social Security Board and a member of the federal interdepartmental committee to co-ordinate health and welfare and activities, spoke:

"The burdens of sickness costs on families and on the public can be greatly reduced through arrangements to distribute these costs among groups of people and over periods of time. The more adequate prevention and care thus made possible would lessen both individual disasters and the public burdens arising from dependency. To finance the program, two sources of funds could be drawn upon. One would be general taxation or special tax assessments. The other would be specific insurance contributions from potential beneficiaries of an insurance system. These might be used separately or in combination. The role of the federal government would be that of giving financial or

technical aid to the states through procedures largely of their own choice.

"The public knows that the professions possess the knowledge and skills requisite to make this a more healthful nation than it is at present. With this has come a demand that there be made available to everyone, regardless of economic status, the services and facilities which now too frequently are luxuries beyond the reach of many. The public is no longer satisfied to secure medical care only under the pressure of actual pain and sickness; it now wishes to conserve health by avoiding illness. It is because of this awakening that there is foreseen a broadening of public health activities beyond their present scope. Society looks to the public health officers for more service and on a broader front. Its only alternative is to turn to agencies less qualified, professionally and technically. The amount of preventable illness and disability, the volume of unattended disease, the rate of premature mortality and the prevalence of individual and social burdens created by illness are challenges which the public health worker must meet."

Dr. C. E-A. Winslow, of Yale University, participated in this program, speaking in behalf of the consumer group. He stated that while some economic groups can afford any emergency medical costs, and some groups can afford no medical care, the majority can pay the average cost of medical care, but they cannot, as individual families, budget for the random catastrophe of serious medical emergencies.

"There is but one hope for this group and for the professional personnel serving them. That is the spreading of the costs of medical care among the families and over a period. It is a method which is logical and inevitable, and which in some form has been adopted by almost every civilized country. The actual spreading of the economic burden of medical care can be accomplished either by taxation, by insurance or by a combination of both.

"It is obviously essential that professional standards of service should be safeguarded in any program of this kind, and the formulation of such safeguards is the business of the medical profession. The method by which the consumer elects to pool his financial resources to pay for medical care, is, as I see it, his business which he must accomplish according to his own desires and with the counsel of the statistician and the economist.

"Fear of federalization has been expressed in this connection. I am a little impatient with the assumption that our federal government is a peculiar, strange kind of foreign body intruded in these United States by some mistake. I regard it as an organ through which I and my fellow citizens can function in our own best interests."

The compulsory health insurance feature of the program, Dr. Winslow admitted, was the most difficult problem to be solved. "This problem does not involve the health problem as such, since under the recommendation the choice between tax-supported service and insurance is left to the states.



The conflict will come in the individual states, and in this I question whether the American Medical Association has chosen its position wisely.

"If provision is to be made for distributing the cost of medical care for the great bulk of our population on the middle economic level—and that it must and will be made seems certain—it can be done in a given area only by tax support or insurance funds.

"In making the choice it seems to me that a tax-supported organization is essential for preventive services and for care of the indigent. But that for the families in the higher economic levels insurance has distinct advantages; in promoting self-respect and sense of responsibility of the patient while it leaves the medical profession as a whole in a more independent and authoritative position.

"The only agency which can assure good quality of medical care is the medical profession itself." Dr. Winslow suggested that "For this purpose, the medical profession must be organized on a broader plane, as today it is not organized for quantity of service." Dr. Winslow urged upon the Public Health Association an alertness "to the present unequal distribution of medical services," and suggested the appointment of a group specially designed to cooperate with the federal government in working out the methods of the national health program. "The health officers must lead in matters concerning the health of the nation."

Mr. Altmeyer, chairman of the Social Security Board, explained that the national medical care program proposed by the federal committee would

cost ten dollars or less a person per year in new taxation. This will provide the minimum needs for essential medical and surgical care, hospitalization, medicine and emergency dentistry. Of the eight hundred fifty million dollars annual expenditure proposed by the committee, 335 million dollars would be earmarked for the care of the medically needy who are too poor to afford such care. The remaining 515 millions of dollars are distributed as 200 millions for expansion of public health activities, 165 millions for maternal and child health work, 150 millions for new hospitals.

The Governing Council of the American Public Health Association, which corresponds in authority to the House of Delegates of the American Medical Association, adopted resolutions pledging the support of the association to the further study of the problems presented, and authorized the president to appoint committee to cooperate with the American Medical Association, the National Organization for Public Health Nursing, and the American Dental Association, in the furthering of a unified attack upon the problem. Contrary to some newspaper reports from the Kansas City meeting, the American Public Health Association definitely did not split from the American Medical Association, nor were there any heated "speeches" made in the Governing Council which could in any way be interpreted as presenting such a viewpoint. There was evidenced an earnest desire to cooperate with all organizations and agencies for the purpose of evolving plans which would most satisfactorily and equitably solve the problems presented.

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## Presence of Coccidioidal Infection in Phoenix

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THERE is at least a possibility that there may be present in the Phoenix district an unrecognized disease, coccidioidomycosis. If this pathogenic fungus is not already here it may be introduced at any time by the migratory workers—cotton pickers and the like—whose itinerary includes California and the Southwest; or by the shipment of livestock from one state to the other. Conditions of climate, soil, and stock raising here resemble those found in the San Joaquin Valley, where the disease is prevalent, and several cases that apparently originated in Arizona have been discovered.

With something of this sort in mind, Dr. C. E. Smith of Stanford University Medical School has sent to me, along with the available publications, unpublished data obtained in their last summer's work on this disease, and a supply of material for the diagnostic skin test. I shall present briefly the newer concept of coccidioidal infection as it appears to the California investigators, in the hope that

any of you who have seen this symptom complex will furnish me with case histories. (Also, I will be glad to test suspected patients, either with active disease or after recovery, for the purpose of establishing the diagnosis.)

### COCCIDIOIDAL GRANULOMA

Coccidioidal granuloma, now regarded as the far advanced phase of the infection resulting from dissemination of the fungi through the blood stream, has been known for some time. The first American case was reported from California by Rixford in 1894. This disease, so rare that it is seldom considered in diagnosis, has a case fatality of 50 per cent. Its course, while usually rapid after the disease has been recognized, may extend over several years. Also, a few instances of localized skin infection with coccidioides have been observed. Little was known of the earlier manifestations of coccidioidomycosis until the researches of Ernest C. Dickson and his associates revealed that the symptoms of first infection are mild, with a characteristic clinical picture; that recovery is the rule, with more or less immunity as evidenced by a specific

skin reaction; and that in certain parts of California this disease is so common that more than half of the old residents react to coccidioidin.

The pathogenic fungus, *coccidioides immitis*, occurs in the tissues as a spherule about 30 microns in diameter, with a highly refractile double-contoured capsule. Its mode of reproduction in the tissues is by endospores; but when planted on suitable media it produces mycelium and forms a fluffy white colony that spreads widely. It grows well at either room or body temperature, and retains its virulence indefinitely, without passage through animals. Its spores are uninjured by drying, and remain vital in the dust that carries them. Add to this that the fungus infects sheep and cattle, causing a non-fatal bronchitis with residual infection of the bronchial and mediastinal glands, and it becomes apparent that the possibilities for the spread and persistence of this organism are considerable, given the right environment.

According to Dickson, "It is suspected that the infectivity for human beings and animals depends upon its growth in regions where in winter there is rain, with relatively little cold, and where the summers are dry, permitting the distribution of chlamydospores with dry soil which is stirred up as dust." These conditions are found not only in Southern California, but equally in Arizona and other parts of the Southwest.

The clinical picture related to first infection with *coccidioides* is said to be fairly characteristic in most cases. Dickson, in a recent article in the *J. A. M. A.* III: 15, 1362, (October 8), 1938, describes the symptoms in detail. Briefly, the disease begins as a severe bronchitis, with rather marked constitutional disturbance. Fever of varying degree is present; usually about 100° F. It may go much higher when bronchopneumonia develops. Pleurisy occurs occasionally; there may be conjunctivitis, but coryza is rare. Malaise, headache, and general aches and pains occur, but prostration is less marked than in influenza.

The disease proceeds like a hard chest cold, with a tendency toward improvement; then, eight to fifteen days after the onset, the characteristic eruption appears. This takes the form of red and painful nodules, 1 cm. or more in diameter, usually over the shins, sometimes invading other areas as well. With the appearance of this painful eruption the fever may increase. The nodules begin to fade in two or three days, leaving a brownish discoloration. The further course of the illness varies with the extent of peribronchial involvement, the duration being from three to six weeks. Recovery is the rule in the cases so far studied, but undoubtedly some go on to the disseminated phase of the disease, even after a considerable free interval.

Even before the erythema nodosum appears, laboratory examination differentiates this disease from influenza. There is no leucopenia; the white blood count is normal or moderately increased, and there is an eosinophilia which may reach 16 per cent.

The cases with bronchopneumonia resemble in

symptoms and physical signs an acute tuberculosis, but examination of the sputum discloses no acid-fast bacilli unless the patient happens to have an open tuberculosis. Instead, there will be found the characteristic spherules of coccidioidomycosis. These are best demonstrated in the unstained specimens. If not so found, culture will show the fungus colonies, and animal inoculation proves the pathogenicity of the organism. Injection is made into the testis of the male guinea pig; pus containing the diagnostic spherules is formed in a few days. If the animal is kept alive, the typical lesions of coccidioid granuloma develop.

Roentgenograms of the chest, if made during the acute infection, show considerable increase of the hilar and peribronchial densities in all cases. In addition to this, there may be coarse mottling which involves all lobes, or lobular pneumonia. These abnormal shadows so much resemble those associated with re-infection in tuberculosis that experienced roentgenologists have been misled. However, in the course of a few weeks the soft densities gradually resolve, leaving only the enlarged root zones.

#### DIAGNOSTIC TESTS

The skin test with dilutions of coccidioidin is helpful in diagnosis; so far as is now known, the test is specific. The diagnostic material is prepared by growing the fungus on Long's synthetic medium. As described by the originators, the technic is similar to that employed in testing with tuberculin, and there is a certain resemblance in the reactions. Acute cases, particularly about the time of the eruption, react to the intradermal injection of a 1:1000 dilution of coccidioidin with a delayed inflammatory area, edematous and quite red, which reaches its maximum at the end of forty-eight hours. Cases of longer standing require a stronger dilution, 1:10 being usually employed. This skin reactivity to the stronger coccidioidin persists for years after apparent recovery.

In the performance of skin tests, it is absolutely essential to use only a new syringe, that has never been used for testing with tuberculin. No ordinary methods of cleansing will free even a hard glass syringe from tuberculin sufficiently to make it certain that false reactions with any other substance used in it will not occur. The same is true of coccidioidin, it seems, and a syringe used for that test should be used for no other. This is particularly true when a control test is employed, and this control is used whenever a positive reaction, either immediate or delayed, is elicited. The control solution is material from the same lot of media, incubated two months, but never inoculated. The same bacteriostatic (merthiolate 1:10,000) has been added, and the same diluting fluid used.

This technic I have scrupulously followed in the tests which I have so far performed. Because of the limitation of my practice to allergy and diseases of the chest, I have little opportunity to see acute illness of the sort described by Dickson. I have under observation a considerable number of chronic asthmatics and others with bronchial damage, including several cases of bronchomoniliasis.



Some of these I have tested with coccidioidin as occasion permitted. The results have been interesting in several respects.

First, as to the specificity of the tests: coccidioidin does not inter-react with oidiomycin, trichophytin, or other derivatives of pathogenic fungi commonly used in testing. My patients with bronchomoniliasis do not give the typical delayed reaction to coccidioidin; they show sharp reactions of this type to an extract of monilia.

Immediate atopic reactions, with wheal, pseudopods and flare such as are seen in a positive pollen test, for example, occur not infrequently when allergic persons are tested with coccidioidin in either dilution. They may fade in an hour or so, with itching and a localized edematous area persisting for a few hours longer; in other cases the early atopic response is followed by the typical tuberculin-like reaction which is best seen the second day after the injection, and which may persist, with occasional annoyance from itching, for a week. I am not yet prepared to venture an opinion concerning the significance of these immediate reactions, other than to state that they are caused by some product of the fungus; the accompanying control evoked such a response in only one instance—an instance so odd that it rates a brief report.

#### CASE REPORT

*Case 1:* A male, aged 39, was first seen in November, 1937. For five years he had suffered from asthma of disabling severity in fall and spring, with occasional attacks at other seasons. His prolonged asthma attacks usually ended in fever and a severe bronchitis; on one such occasion he had a bronchopneumonia but no skin eruption.

He was found to be intensely sensitized to certain pollens and foods; a secondary sinusitis was present. His symptoms were easily controlled so long as he received appropriate pollen therapy and avoided the offending foods. Recently, after a period of four months during which he had been symptom-free without treatment, he appeared with intense asthma, a purulent sputum, and irregular fever. In the course of his re-examination the coccidioidin test was used and had an immediate four-plus reaction of the atopic type, fading in an hour; there was no delayed reaction later. At his next visit he was found to have exactly the same response to the control. It was then recalled that he was highly intolerant to asparagus, and a 1:200 dilution of asparagus proteins elicited a reaction not distinguishable from the test with coccidioidin and its broth control. This fungus had been grown on Long's synthetic medium, which has as its only source of nitrogen the amino acid asparagin. Such a coincidence is probably rare; I have not found another like it.

A few cases have been encountered in which the typical tuberculin-like 48-hour reaction occurred, with apparently a close relation to a change in the patient's symptoms, and in which the offending fungus must have been acquired locally. Two such examples are cited; the first of asthma, the second of "summer flu". In neither did erythema nodosum appear. Both the patients were allergic individuals who had been under observation for several years.

*Case 2:* A trained nurse, now aged 50. She came to Arizona in 1927 for treatment of tuberculosis.

Her left lung was extensively involved, and it was collapsed by pneumothorax. Symptoms of active tuberculosis ceased, but the lung remained atelectatic; intrathoracic deformity with displacement of the mediastinal structures, tracheal deviation and bronchial kinking occurred.

She had hay fever before coming to Arizona. She was free from it for two years; then the symptom complex frequently observed in pollinosis patients with damaged lungs made its appearance: wheezing, cough, and mucoid sputum without tubercle bacilli; in short, a mild and intermittent asthma. The symptoms were readily controlled by pollen therapy, which in time the patient administered to herself as required. In the summer of 1937 this treatment failed to confer the usual relief; she began to have a paroxysmal productive cough with dyspnoea. Tests failed to reveal any new sensitizations. The sputum showed no tubercle bacilli: yeast-like organisms were found in the smear, but could not be grown on culture. Her symptoms subsided in the winter, but returned in increased degree during the past summer. Tests with coccidioidin were strongly positive, other fungi and the broth control were negative. The asthma was relieved by the test, once repeated.

This patient has not been in California since 1923, and then only in Los Angeles. She never had erythema nodosum. In the second attempt to demonstrate fungus coccidioides in her sputum an organism growing in a fuzzy gray colony was found; its precise identity has not yet been determined.

*Case 3:* Male, aged 55. At the age of 50 he came under observation for tuberculosis. His disease failed to heal under conservative treatment, and notwithstanding his age, at that time 52, it was necessary to use pneumothorax. This controlled his symptoms, but the damaged lung underwent a partial atelectasis and has never fully re-expanded.

For years he had been subject to what he called "summer colds"; with them he had paroxysmal cough, and shortness of breath. Examination showed a mild chronic asthma. He was found to have a low-grade sensitivity to pollens, and treatment with them controlled his symptoms only on part. He was not sensitive to foods, by either test or trial. The coccidioidin test was applied, and a strongly positive reaction occurred in twenty-four hours. As the reaction developed, his wheezing ceased entirely. The control test with uninoculated broth was negative, as were tests with extracts of other fungi. Relief has continued, with no other treatment than repeated coccidioidin injections, less than the usual test dose.

He has not been in California for many years, and then only in Los Angeles. The results of sputum culture have not yet been determined.

#### COMMENT

At this writing I have found eight typical delayed positive reactions to coccidioidin.\* Two of these positively reacting patients have spent a summer in California within the last two or three years; another lived there for eight years, and probably got his infection there. Of the eight positive reactors, seven are known to be sensitized to foods, pollens or both. The remaining patient has symptoms and physical signs (including persistent eosinophilia) strongly suggesting the presence of atopic disease, but I have never been able to find the offending

\*Since the above was written, several additional positive reactions have been observed, all with negative controls as described. None of these patients had erythema nodosum. Apparently this reaction is not uncommon in the clinical material being tested.

substance. In three of the allergic patients, prompt relief of symptoms followed the positive reaction—relief which I had not been able to bring about by the usual agents. Another, with an excessive local reaction, suffered for three days from malaise, generalized aching, and nausea, but no fever.

This evidence is at least enough to justify the suspicion that coccidioidomycosis is present in Phoenix, apparently in a chronic form not previously described. Unless the coccidioidin test is not specific, this organism is a factor in certain cases of asthma and chronic bronchial infection. We owe it to ourselves and to the public to recognize this disease if it is here, and we can do it best by concerted action. This matter was taken up by the County Medical Societies in Kern and Tulare Counties this year, and as a result, to quote Dr. Smith's personal communication, "Not only have we picked up several undiagnosed cases of coccidioidal granuloma, but over 200 cases of erythema nodosum caused by coccidioides fungus, and several

cases of so-called 'summer flu' without erythema nodosum."

In California the residents of the infected areas recognized the fact that they had there a distinct disease, long before their doctors were ready to admit it. They call the ailment "valley fever", "desert fever", or "summer flu"; and the rash they named "the bumps". One hears some of these terms locally, as well as reference to "desert rash" and "desert sores". (It may be that some whose clientele includes the residents of the desert north of Phoenix can refer these "desert sore" cases, whatever they are, for testing. A note on a prescription blank should accompany the patient, and I will, of course, inform the referring physician of the result. No charge will be made for the tests so long as my supply of coccidioidin lasts, and there is enough of it to determine, with your help, whether we are missing the diagnosis of what is, for us, a new disease.)

381 N. 18th St.

Make arrangements now to attend the

## ANNUAL MEETING


of the

Arizona State Medical Association

to be held at

Phoenix, Arizona

April 13-14-15, 1939





# Southwestern Medicine

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Southwestern Medical Association  
El Paso County (Texas) Medical Society

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## WIND OVER AMERICA

Cases of mental aberration are not all confined in the booby-hatches of the republic, and for the sake of our funny-bones let's hope the powers keep a few of the harmless ones out of stir. Certainly the psychiatrists shouldn't be allowed to hog all the fun.

In case the harrassed medico hankers for an amusing peep inside the emptier skulls of the times let him invest a nickel in the name of good, clean fun by purchasing a recent copy of America's blatant weekly owned by our old Comrade, dear "Body-Love". Therein he will find a stuttering, mono-syllabic denunciation of present day physicians and their organizations. He will learn of the marvelous grape and milk therapy of the social diseases. Sad to relate, his own scientific journals have kept him in darkest ignorance of this dawning millenium in pharmacology. The by now startled reader will be further informed that as the devil hates holy water, so does the American physician hate that mean old boogey-bear, the American Medical Association.

Yes, by all means, the physician should purchase a copy of "Body-Love's" mouth-organ of recent date and observe therein how the windier segment of the population doth huff and puff most amusingly.

## GROWTH OF A NECESSITY

Twenty-five years ago a little group of Southwestern physicians banded together in a move to further their post-graduate education. They were motivated by a lasting hunger for knowledge. They

knew that their basic medical training must be continually augmented. They were aware of the fact that their science was not static, had to be dynamic in behavior.

At first there was debate and an exchange of ideas among the local members. As the years passed outside teachers were engaged to bring their new knowledge from various Eastern medical centers to this Southwestern outpost. Physicians from Arizona New Mexico, Western Texas and Old Mexico learned of the annual sessions, and attended, and were welcomed. Attendance grew, more ambitious programs were staged.

From a shaky, humble beginning the Southwestern Medical Association has now developed into a secure, vital, powerful instrument for post-graduate instruction of all physicians in this Southwest. Today it may be listed among the necessities of the medical man's life in this corner of the world.

The year 1938 brought new security to the association. Fresh testimony to that statement is found elsewhere in this issue of SOUTHWESTERN MEDICINE in the last report submitted by the retiring secretary-treasurer, Dr. O. E. Egbert.

As the association enters its twenty-fifth year of usefulness it is good that contemporary members remember to honor that glorious handful of men who have kept the breath of life evenly flowing in the institution from year to year.

## SYPHILIS INTELLIGENCE

Every physician has his own methods of dealing with syphilis, developed through a fund of experience. That a certain uniformity in such dealings might be somewhat desirable is borne out by the numerous outlines of procedures that grace every article, every text book on the disease. Certainly the case of syphilis should be viewed from at least two perspectives, viz., the personal standpoint of the patient, and the relation of his case to society at large. Stokes of Philadelphia gives this as a logical procedure:

1. Explain to the patient the nature of his disease at first consultation.
2. Specifically instruct him regarding infectiousness.
3. Give him something to read if he can grasp it, and have something at hand that he can grasp.
4. Take time, use words of one syllable, speak the vernacular.
5. Know what the state and city are doing for venereal disease patients. If they are doing better than you, improve yourself.
6. Report your cases. If a patient leaves you, know to whom he goes and send a letter of findings. If he fails to report, notify the health authorities.
7. Utilize and appreciate a good state laboratory. (For your indigent and semi-indigent patients.)
8. Call the state or city in to help you with the irresponsible patient.
9. Place education of the patient ahead of enforcement when possible.
10. Insist that the state shall keep its place in medical practice and fulfill its obligation by serving only the indigent.
11. Think socially as well as individually, in preventive terms, about the control of sexual disease and sexual problems.

## CONTRIBUTION BY LIFE INSURANCE

Recently there appeared a new publication, *Proceedings of The Life Extension Examiners*. This journal expects to make use of the mass of statistics available from life insurance examinations in this country. Studies of varied types are to be published. Much of value should derive from such publication, as is hinted by the following:<sup>1</sup>

In industry it occasionally happens that the by-product to the manufacture of a given article assumes a value sometimes equalling or eclipsing that of the original product. A similar development is noted in the progress of life insurance work. The primary objective of life insurance is to provide financial assistance in times of affliction. Life insurance companies were organized primarily as financial institutions to provide means to offset property risks resulting from accidents to life and health. Originally this presupposed the death of the individual before the benefits could be obtained.

During the past score of years another angle of their work has come to the foreground—one far more satisfying in its accomplishment. We refer to the health conservation program, so extensively in operation today. Very few people appreciate the tremendous work now being sponsored by the life insurance companies in the field of preventive medicine. The wealth of accurate statistical information obtained by the life insurance companies has been of inestimable value in guiding the public health officers in the control of disease and mortality. This information has been made readily available to all who may be interested in public health. Based upon this information, extensive programs for disease eradication have been instituted by public health agencies and the medical profession.

Another very valuable contribution of the life insurance companies is the dissemination of accurate information on general hygiene and health preservation through the public press and private publications.

But probably the most outstanding contribution to better public health and greater life expectancy is the periodic health examination which some companies provide for their policyholders. It was primarily through the cooperation of the life insurance companies that the periodic health examination movement was instituted and given such support as to assure its continuance. Past experience shows that without this cooperation and promotion by the insurance companies there would be no periodic examination movement today. This is not because the principle is not generally accepted. It would be difficult to find anyone who did not agree with the plan in principle and many intend to follow such a program, but, so long as a fair degree of health is experienced, the actual examination is postponed indefinitely. Thus, people go down the road "paved with good intentions" until calamity ensues. The incentive to action usually comes from the insurance companies which, by direct appeal and the offer to provide the examination without expense to the policyholder, bring the individuals to the physician.

Now that the general health examination is definitely established and accepted as a part of the national health program, it is only fair to acknowledge the indebtedness of both the general public and the medical profession to the life insurance companies for the benefits which have resulted from their vision and generosity.

## PARENTERAL PROPAGANDA

In so many ways the present administration at Washington has tried to shove the bitter pill of regulation down the throat of various segments of the public that it comes as a delicious surprise to watch the onset and development of a new piece of monkey-business which is calculated to instill propaganda in methods more subtle.

Various bureaus, committees, groups, and sundry gangs have clothed themselves with high sounding names ranging from the Lovers of True Democracy to some such meaningless title as the Knights of Flatus. These holy foundations ship limitless quantities of more or less cute guff to the editors of the land. Most of the stuff is a deplorable waste of good paper, although it has been said that this paper has its uses in the country districts, where plumbers as yet have not penetrated in the march of the newer civilization.

Sometimes the weighty deliberations of the propaganda gang are disguised as interviews between at least two Great Thinkers. One of the hydrocephalic parties in the erudite discussion is clothed in spotless white. He is a direct descendant of Galahad. He is the bright young man with visions of Heaven on earth. He always wins in the argumentation, to the final discomfiture of his black-hearted antagonist, who is usually, after his mask is removed, discovered to be none other than a plain old family doctor! Oceans of such rubbish are swept into the editorial offices of the country daily, in the too-often-gratified hope that some of it will reach the public eye through the medium of the press. Many are the waste baskets that are groaning tonight, groaning with mountains of trash. Many are the backs that will ache after dumping this trash in the cleansing bonfires in thousands of back alleys of America.

It is to the eternal credit of the editors of the daily press that they have to date been singularly difficult to hornswoggle. There are still some alert brains in America.

## PRE-NATAL TREATMENT OF SYPHILIS

Laudable though the plea for early treatment of the pregnant mother may be, recent work by Snyder and Speert (1) would seem to indicate that anti-syphilitic therapy may be of high value rather late in the term. These workers have recently reported experiments on rabbits in which injections of neoarsphenamine were given the animals at various stages of pregnancy. Quantitative determination of the arsenic content of the fetuses and placentas were made at various times following the injections into the mother's blood stream. These experiments indicated that the rate of placental transmission of arsenic increased markedly as the pregnancy advanced toward term. A larger amount of arsenic was found in the placenta than in the fetus, but the amount of arsenic in the fetus was invariably increased after the twenty-four hours following the injection into the mother. The authors felt that near term the transmission of arsenic through the placenta attained its maximum.

Certainly the pregnant woman with syphilis should not be denied treatment early in her pregnancy. On the other hand, one may expect a good deal of success if treatment has to be started late in the period of gestation. Anti-syphilitic treatment should therefore be given in adequate amount to every case of pregnancy complicated by syphilis, regardless of the stage of pregnancy attained by the patient when the physician first establishes the diagnosis of syphilis.

(1) Am. J. Ob. and Gyn. Oct., 1938.

(1) *Proceedings of the Life Extension Examiners*. 1:20, Jan., 1939.



## Special Section

# Southwestern Medical Association

### REPORT OF SECRETARY

With the reorganization of the Association in 1935 two important changes in the business policy of the Association were made. One was the separation of the business of the Southwestern Medical Association from the Journal, *Southwestern Medicine*. The separation was carried out and during 1937 the Board of Managers of *Southwestern Medicine* organized and employed an editor and a publisher and otherwise perfected the details of an excellent business organization. The other change of policy was that the Southwestern Medical Association prepare the program and finance the Annual Meeting, where heretofore the local medical society did. This change of policy was offered by the men from Arizona and New Mexico that a hardship might not be worked upon the members from the El Paso County Medical Society since El Paso became the regular meeting place of the Association.

This change has come about gradually during the past three years. In 1936 El Paso entertained the Association and prepared the program and had the responsibility of financing it. In 1937 the Association met in Phoenix and again local committees handled the program and the financing, with the Association subsidizing the local committee for \$150.00. The 1938 meeting again was held in El Paso and was handled entirely by Association officers. All funds accruing from membership fees, registration fees, booth sales and ticket purchases were turned in to the Treasurer of the Association and, of course, all disbursements for speakers' cost, balls, entertainment, etc., were paid from the treasury.

These two changes in policy have seemed to be successful from every viewpoint. The Journal and the management thereof speak for themselves, and it seems practical that the business management of the Journal and that of the Association be separated. The business side of the Association seems to be in excellent state. At the reorganization of the Association there was \$57.00 in the treasury on January 1, 1936; on January 1, 1937 there was \$292.00; on January 1, 1938 there was \$330.43, and as the treasury is turned over to the new treasurer, Dr. Maurice Spearman, we are naturally proud to report that there is \$699.88 in the treasury.

This means that some \$300.00 was made off the last meeting by the Association. If I may voice my personal opinion, it is that if the Association has approximately \$300.00 in the treasury at the beginning of each fiscal year, that it is a safe balance. I see no occasion to build up a large treasury, therefore, shall recommend to the Executive Committee that in planning the 1939 program that it plan to spend approximately \$300.00 more on that program than was spent on this year's program. Like-

wise, there can be at least \$100.00 spent on advertising the meeting. A bigger and better meeting will naturally be the result, and with it properly advertised I am sure it will more than pay for the venture in increased membership and attendance.

Yours for a bigger and better 1939 Session,

—Orville Egbert, M. D.

Retiring Secretary-Treasurer.

#### TREASURER'S REPORT—1938

<b>ASSETS:</b>	
Cash on hand Jan. 1, 1938 .....	\$ 330.43
Membership fees and registrations .....	1,646.00
Tickets for annual dinner .....	282.00
Commercial exhibits .....	395.00
<b>Total .....</b>	<b>\$2,653.43</b>
<b>DISBURSEMENTS:</b>	
Salary assistant secretary .....	\$ 300.00
Western Union .....	17.77
Southwestern Medicine .....	100.00
Supplies .....	53.00
Stamps .....	32.00
Clerical help for meeting .....	80.14
Transportation for speakers .....	620.82
Meals allowance for speakers .....	29.50
Labor, carpenter, etc. ....	86.75
Storage for booths .....	68.00
Prize, medical bag .....	19.85
Printing .....	100.75
<b>Entertainment:</b>	
Woman's Auxiliary .....	\$ 45.00
Annual dinner .....	285.97
Orchestra .....	65.00
Orchestra .....	7.00
Flowers .....	20.00
Entertainers .....	10.00
Entertainers .....	10.00
Flowers .....	2.00
<b>Total entertainment .....</b>	<b>444.97</b>
<b>Total disbursements .....</b>	<b>\$1,953.55</b>
<b>Balance on hand Dec. 31, 1938 .....</b>	<b>\$ 699.88</b>

### CALIFORNIA APPROVES PLAN FOR MEDICAL CARE

At a special meeting of the House of Delegates of the California Medical Association in Los Angeles December 17, a plan to provide medical care to residents of the state at a cost of about \$2.50 a month was approved. *The Journal of the American Medical Association* reports.

According to the *New York Times*, patients will select their own doctors and hospitals. Payments will be made on a weekly, monthly or semi-monthly basis. Physicians will be paid on a unit basis, the payments graded from single units for minor services to twenty-five or more units for major operations. It is expected to take about six or eight months to put the plan into operation. While the exact cost has not been determined, the estimate is \$2.50 a month for each person. No provision for family group insurance was made under the revised final plan. Hospital, medical and surgical attention will be provided and the expenses may be lower if 500,000 or more persons participate in the plan.

## Special Section

# Arizona State Medical Association

J. D. HAMER, M. D.  
Associate Editor

### ARIZONA MEDICAL SERVICE PLAN

The Medical Economics Committee of the Arizona State Medical Association have initial plans under way for the formation of a medical service plan for this state. The Committee, composed of Drs. W. Paul Holbrook, Chairman, Tucson; J. D. Hamer, Phoenix, and Geo. O. Bassett, Prescott, invited the County societies to an informal conference on January 8, at which time the outline of the plan was discussed. The opinion of the conference was that some such plan should be drafted for as early action of the Association as possible. An ensuing meeting of the Committee, based on the recommendations of the conference group, was held and the details more definitely outlined.

The plan is now in the hands of legal authority for investigations relating to insurance and corporation laws to determine the legality of the entire procedure so far as the laws of Arizona are concerned. This phase of the work is nearing completion, with the plan now being outlined in detail for the consideration of all county medical societies. As soon as the county societies have made further recommendations a called meeting of the House of Delegates of the Arizona State Medical Association will be held to take final action on the proposals offered. This called meeting will be prior to that of the Annual Meeting in April, according to present plans.

The membership is urged to await the deliberations of their county medical societies before entering into agreement on other plans it is understood are being offered in some sections of the state. No other plan has been placed before the Association or the individual societies for approval or endorsement, and it is strongly urged that members withhold their participation in such plans. The Committee on Medical Economics has given the plan being contemplated careful investigation and study. Stand by for their early report to your county medical society.

### PUBLIC HEALTH LEGISLATION

The Committee on Legislation sent out a recent letter to the membership of the Arizona State Medical Association relative to the details of Public Health Legislation sponsored by the American Legion and now before the House of the Fourteenth Legislature for action. The Senate will receive the measure after the House has completed its deliberations and given its vote.

This Association is equally interested with the American Legion in seeing that a better Public Health set-up for Arizona is made possible. There were several points in the Legion measure, as in-

troduced, which this committee did not feel were advisable for Arizona at this time, hence it recommended several vital changes, the majority of which will be incorporated in the measure when finally passed by the House.

The Arizona State Medical Association, through this Committee, has pointed out to the Legislature that the recommendations offered are not to be construed as opposition to House Bill No. 1, which is the measure in question, and that this Association is not attempting to block the passage of any Public Health measure. The recommendations offered have been accepted in their proper light by the Legislature, the present prospect being that a measure will be enacted providing for a full-time superintendent of Public Health for Arizona with such qualifications as will insure the services of a capable man but not to restrict a proper selection.

Members of the Committee on Legislation are: Drs. Norman A. Ross, Chairman, Phoenix; Geo. B. Irvine, Tempe; Clarence Gunter, Globe; Jas. H. Allen, Prescott; Chas. S. Smith, Nogales, and C. A. Thomas, Tucson.

Communications from the membership relative to this and other pending legislation of interest to the profession and the public at large are invited.

### AUXILIARY BOARD TO MEET

Mrs. George C. Truman, of Mesa, President of the Auxiliary of the Arizona State Medical Association, has called a meeting of the Executive Board to be held in Tucson on February 28. Business before the Board will relate to the Annual Meeting as set for April 13, 14, 15 at Phoenix. Planning to attend the Tucson session of the Board, in addition to Mrs. Truman, are: Mrs. N. A. Ross, J. M. Greer, F. B. Sharp, and J. W. Pennington, of Phoenix; Geo. B. Irvine, Tempe; Henri S. Denninger, Glendale; Jas. Meason, Chandler; H. T. Southworth, Prescott; and Mrs. V. G. Presson, Royal Rudolph, E. C. Comer, C. E. Patterson, B. B. Edwards, and Clyde Flood of Tucson.

### ANNUAL MEETING

The March issue of *Southwestern Medicine* will carry the program for the Annual Meeting of the Arizona State Medical Association to be held in Phoenix, April 13, 14, 15. An excellent scientific program is being arranged with the details about ready for release. Dr. Jas. L. Johnson, president of the Maricopa County Medical Society, announces that local committees have plans well under way for entertainment, clinics, etc. Plan now to

226078



attend. The Program Committee consists of Dr. Chas. S. Smith, Chairman, Nogales, and Drs. W. Paul Holbrook, Tucson, and Frank J. Milloy, Phoenix, members.

## MISCELLANY

### THE LONG-WHISKERED DOCTOR OF THE STORY BOOKS

An English journal which calls itself "The Economist" ends with a short article on "Doctors and Public" with,

"The doctors will enjoy the respect of the public to precisely the same degree that they do not behave like a commercial vested interest."

It is said the whole world loves a lover, but apparently if any such regard is held for the doctor in this country as in Great Britain, it is a very special type of doctor, replies the *Journal of the Indiana State Medical Association*. He is the country or city practitioner with a full beard who answers all calls day and night, keeps no books, sends no bills, dies at fifty-five of a coronary occlusion, and leaves to his wife and children a doubtful future.

A physician has no right, it seems, to watch after his own interests and make himself an income sufficient to take care of his overhead and have a little left over for life insurance. Strangely, no patient, even if he doesn't intend to pay, wants to have a doctor drive up to his place in a jalopy car. His doctor must maintain a good looking car and a properly furnished office. However, if such is the appearance of prosperity, the patient figures that the doctor must not need the money and worries not when he pays.

The public has taken to itself the picture of the self-sacrificing, charitable physician and does not care to lose it. This is proper and we as physicians should do our best to maintain this picture of charitable self-sacrifice, but we have a right and a duty to be practical business men as well.

Recently a physician told of meeting a nurse who had been with him on an obstetrical case many months previously. She asked, "Doctor, did you ever get any pay for that case I helped you with last year?"

"No!" was his reply. "I haven't heard from them since. Did you get your money?"

"No, doctor, I didn't either," she answered. "And I heard later that the husband was worried as to whether you got home all right. It seems that while we were in the house delivering the baby, he was outside siphoning the gasoline out of your car!"

—N. Y. St. Jo. of Med.

### BLOW TO CHIROPRACTIC

In Brooklyn Magistrate Sylvester Sabbatino made a ruling on chiropractic which should expedite the elimination of this form of illegal medical practice from New York State. The defendant Frederick C Zinke, fought for acquittal on the basis of a routine statement to patients that he did not practice medicine, diagnose or prescribe drugs. In his decision to hold Zinke for Special Sessions, Judge Sabbatino brushed aside this subterfuge with a reasoned statement going to the core of the situation.

The Court held that in spite of the defendant's disclaimers there was a "holding out" to practice medicine in the signs displayed by him, in the whole set-up of his office and in the acts performed there. "And the fact that chiropractors abstain from the use of words like 'diagnosis,' 'treatment' or 'disease' is immaterial. What they hold themselves

out to do and what they do is to treat disease, and the substitution of words like 'analysis,' 'palpation' and 'adjustment' does not change the nature of their act. . . . To this Court, the negation is but a false pretense, for defendant proceeded to perform the very acts which he pretended he did not perform."

A momentous aspect of Judge Sabbatino's decision is his interpretation of the display of signs bearing the legend "chiropractor" or "Doctor of Chiropractic." "These signs and certificates are in themselves presumptive evidence of a holding out (to practice medicine) . . . —the titles 'doctor' and 'chiropractor' carry with them definite implications that the possessor of these titles is able to treat bodily conditions."

This is one of the most important rulings handed down on the subject of chiropractic. It makes it possible for the state to proceed against every chiropractor who so lists himself in the telephone book or who displays a chiropractic sign. It materially lessens the difficulty and expense of procuring evidence and makes the situation of all kinds of unlicensed sectarian practitioners less tenable.

The medical practice laws, in spite of occasional charges to the contrary, are designed primarily to protect the lay public against unqualified healers. Vigorous prosecution of illegal practitioners, such as the state has enjoyed under Assistant Attorney General Sol Ullman, is materially aided by clear thinking, unequivocal judicial decisions like that handed down by Judge Sabbatino in the Zinke case.

—N. Y. St. J. Med

### SULFANILAMIDE-PYRIDINE

Early this year English workers announced that the pyridine derivative of sulfanilamide described as 2-(p-aminobenzene-sulfonamide)-pyridine or sulfanilamide-pyridine, had been found to protect mice against pneumonia invasion to a much greater extent than was possible with sulfanilamide. The drug is patented and marketed in Great Britain by May & Baker under the nondescriptive name of M & B 693, or "Dagenan." Merck & Co., Inc., the American firm which has obtained the patent rights for the product in this country, has, to its credit, not placed the product on the market; instead it has placed it in the hands of competent investigators in chemotherapy and pneumonia to determine more definitely its dosages, advantages and limitations. While published reports containing the details of the studies thus far are not available, THE JOURNAL has received communications from a few investigators, all of whom agree that the product has promise in the treatment of certain types of pneumonia. The substance has not yet been submitted to the Council on Pharmacy and Chemistry, but the firm undoubtedly will submit the product before it is actively promoted. Merck & Co. is cooperating fully in determining both the usefulness and the hazards associated with the product before making it generally available.

—(J. A. M. A.)

### STAR GAZERS

The "Committee of Physicians for the Improvement of Medical Care, Inc." is apparently nearing the end of its rope. They make claim Nov. 26, 1938, to a membership list of 921. However, many of them apparently give lip service only. The note of appeal to members for financial aid states that only 111 have so far contributed to the treasury. That is pretty fair evidence that, while many of them might think that medical care in the United States needs renovating, their thoughts do not reach far enough or deep enough to touch the pocketbook. Other agencies, particularly the National Health Conference, have at least quasi support from the federal government since many of its members

are federal employees or heads of departments in the ramified bureaus which now infest Washington.

The letter of information concerning activities of the "Committee of Physicians" gives full approval to the proposals for federal legislation made by the National Health Conference, which program they have swallowed, hook, line and sinker. The action taken by the A.M.A. House of Delegates is mentioned, discussed briefly and left in limbo.

It is apparent that not many physicians have felt the urge to join this band of enthusiasts whose action turned loose a "Pandora's Box" of irritating and conflicting problems.—*Rocky Mtn. Med. Jo.*

#### VITAMIN K

Early in 1937 THE JOURNAL discussed the discovery of vitamin K and the results of the earlier experimental work in connection with this food factor. The present view is that this food factor is instrumental in maintaining the level of prothrombin in the blood. The hemorrhage is usually traumatic in origin, but diminished prothrombin results in a prolongation of clotting time which emphasizes the seriousness of the hemorrhage. Along with the prolonged clotting time in chicks is an anemia which likewise responds to vitamin K given in the form of an extract of alfalfa. Bile is highly important in facilitating the utilization of vitamin K, probably by promoting its absorption; this has now been shown in rats, in dogs and in human patients. A recent report describes a crystalline product prepared from alfalfa leaves and so potent that 0.6 microgram will reduce the clotting time of 50 per cent of a large number of hemorrhagic chicks to normal. A still more recent report describes an active clotting factor prepared from dog, pig and lamb livers; this, however, gave chemical evidence of being a sterol.

—(J. A. M. A.)

#### PNEUMONIA

The winter months bring pneumonia, one of the most vicious of all illnesses. In combatting the disease, it is necessary to educate the public, and support the efforts of physicians and research workers to the end that they all will lend their cooperation in the fight against pneumonia.

The third greatest cause of all deaths in the United States, pneumonia attacks chiefly the very young and the old. Of the two kinds of pneumonia, the adult usually has the lobar type while the infant and young child more frequently has bronchopneumonia.

The etiology of pneumonia has been found to be the pneumococcus in 96 per cent of all cases. The remaining 4 per cent are due to streptococcus, staphylococcus, or the bacillus of influenza of Pfeiffer, or Friedlanders bacillus.

In 1911, Neufeld and Handel found that the pneumococci varied and divided them into three distinct groups, and a fourth heterogeneous group. Later workers subdivided the fourth group so that now there are types 1 to 32. Only about 3 per cent of cases fail to fall in specific groups by the newer methods. Types 1 and 2 are responsible for more than half of all cases of pneumonia, type 1 causing more than 30 per cent and type 2 more than 20 per cent. Type 3 pneumococcus causes between nine and ten per cent of all cases of pneumococcal pneumonia, and the remaining 30 or 40 per cent of cases are caused by the pneumococci of the remaining types 4 to 32.

With the advent of serum therapy, the death rate from pneumonias due to the pneumococcus has been considerably lowered. It is vitally necessary that the type of pneumococcus be determined before any serum therapy can be instituted. For

this procedure, a specimen must be submitted for bacteriologic examination representing exudate expectorated from the lung. The type is determined by the swelling of the pneumococcus in the presence of the right type of serum.

Pneumonia progresses rapidly. It is an emergency. Each day's delay in the administration of serum lessens the possibility of recovery. Because serum therapy frequently determines the outcome in a given case, each patient is entitled to typing studies and to serum therapy if it is available. Reduction of mortality by 50 per cent and more has been reported following the use of type-specific anti-serum. The effectiveness of serum therapy is multiplied by early administration. Some authors state that it should be given not later than the third day. Thus it is rarely permissible to withhold serum because of mild initial symptoms since there is no dependable method of forecasting the eventual severity of the disease. Adequate doses on the first or second day of the disease is ideal and frequently leads to prompt termination of the illness by crisis.

One of the most important factors is educating the public to the fact that pneumonia is an emergency, that it is a dangerous disease, that it is highly contagious, and that specific serum saves many lives. They must also be constantly reminded that colds should be properly cared for because three-fourths of all pneumonia cases begin with a cold. The physician should be summoned early so that every resource of science may be called into use. This is, indeed, a difficult task, but with perseverance and untiring effort, the public will cooperate and consequently will help to lower the mortality from pneumonia.

—*Jo. Ind. St. Med. Assoc.*

#### CONDITIONS ASSOCIATED WITH DIARRHEA

- I. Systemic disturbances:
  - A. Nervous diarrhea
  - B. Allergic diarrhea
  - C. Food poisoning
  - D. Trichinosis
- II. Metabolic disorders:
  - A. Hyperthyroidism
  - B. Uremia
  - C. Pancreatic insufficiency
- III. Functional gastro-intestinal disorders:
  - A. Irritable colon unstable colon or "mucous colitis"
  - B. Gastric diarrhea
  - C. Foreign bodies
- IV. Organic intestinal disorders:
  - A. Neoplastic
    1. Polyposis
    2. Carcinoma
    3. Other tumors
  - B. Non-neoplastic
    1. Ulcerative colitis
      - a. Streptococcal
      - b. Tuberculous
      - c. Parasitic
      - d. Infectious diarrhea of undetermined etiology
    2. Infectious dysentery
      - a. Bacillary dysentery
      - b. Typhoid fever
    3. Granulomatous lesions
      - a. Tuberculoma
      - b. Amebic granuloma
      - c. Infectious granuloma (nonspecific)
    4. Regional enteritis colitis and enterocolitis
    5. Deficiency diseases
      - a. Pellagra
      - b. Sprue

*Bargen in Rocky Mtn. Med. Jo.*



## NEWS

### *El Paso*

The regular dinner and staff meeting of the Staff Meeting of the Southwestern General Hospital was held Friday, January 27, 1939, at 6:30 P. M., in the Hospital Auditorium. The program was as follows:

"Laboratory Diagnosis, Pathology and X-ray Findings of Pneumonia"—Dr. George Turner.

"Clinical Diagnosis Treatment and Recent Developments of Pneumonia"—Dr. Chester Awe.

"Metastatic Squamous Cell Carcinoma to the Upper Ureter"—Dr. E. J. Cummins.

Discussion opened by Dr. J. W. Cathcart.

The regular meeting of the El Paso City-County Hospital Staff was held Wednesday, January 18, 1939, at 6:30 P. M., at City-County Hospital. The program was as follows:

"Case of Lobar Pneumonia." Presentation by Dr. Ralph Homan.

"Differential Diagnosis of Ovarian Cyst." Presentation by Dr. John Murphy. Discussion by Dr. J. L. Green.

The regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, January 3, 1939, at 12:30 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

"Chronic Duodenal Ulcer. Pyloric Obstruction"—Dr. F. D. Garrett.

Discussion by Dr. J. L. Green.

"Aplastic Anemia"—Dr. R. Holt.

Discussion by Dr. C. D. Awe.

A regular meeting of the El Paso County Medical Society was held Monday evening, January 9, 1939. The program was as follows:

Presidents Address—Dr. James J. Gorman.

"Radiation Therapy in Gas Gangrene and Other Infections"—Dr. D. von Briesen.

The regular meeting of the El Paso County Medical Society was held January 23, 1939, at the Hilton Hotel. Dinner was served at 7:00 P. M. The scientific program at 8:00 P. M. was as follows:

"Fractures of the Hip." Lantern slide demonstration of Blind Pegging with Smith-Peterson Nail—Dr. Louis Breck.

"Oral and Facial Deformities"—Dr. W. John Pangman.

Discussion opened by O. J. Shaffer, D. D. S.

The following committees were appointed by Dr. James J. Gorman, President of the El Paso County Medical Society:

Program Committee—Dr. Gerald H. Jordan, Chairman; Dr. Arthur P. Black, Dr. Raymond P. Hughes.

Public Health and Legislation—Dr. J. L. Green,

Chairman; Dr. B. F. Stevens, Dr. James W. Laws.

Contact Committee—Dr. Frank Barrett, Chairman; Dr. John L. Murphy, Dr. Robert F. Thompson.

Dr. Gerald Jordan was elected president of the City-County Hospital Board recently. Dr. Hugh White was elected first vice-president; Mr. John Paxton, second vice-president; Mr. Samuel Wasaff, third vice-president; Mrs. J. I. Driscoll, secretary and Mr. Joe Campbell, treasurer.

January 9, 1939, at the regular meeting of the El Paso County Medical Society, Dr. W. L. Brown was presented with a gold card, symbolic of life membership in the Southwestern Medical Association. The El Paso HERALD POST had this to say:

"The physicians of the Southwest honored Dr. W. L. Brown last night when the El Paso County Medical Society met for the first time this year with the new president, Dr. James Gorman, presiding.

Dr. Brown's high idealism and nearly 40 years of faithful service to the people of El Paso and this section were recognized by a gold card, giving him life membership in the Southwestern Medical Society, of which he was a founder 25 years ago.

Dr. Paul Gallagher and Dr. Orville Egbert spoke of Dr. Brown's career and character and the love of his fellow practitioners for the fine old gentleman who faithfully observed and preserved the fine ideals of his profession in a day when the West was tough and young.

Such men as Dr. Brown have brought the physician to his present high place in the community. As long as the recruits to the profession are taught to follow in the footsteps of such as he, they do not need to fear any of the changes which the changing world may bring about."

## AUXILIARY NEWS

### *El Paso*

The El Paso Medical Auxiliary has held its regular meetings on the second Monday of each month throughout the fall and winter.

A musical program was featured at the first meeting, held on October 10 at the home of Mrs. N. H. Keller. Miss Nellie Miller sang, accompanied by Mrs. Norman Blower, and Miss Frances Barton played piano selections.

Mr. Lester Silberman played piano solos at the November meeting, at the home of Mrs. Wickliffe R. Curtis, and "The Life of Chevalier Jackson" was reviewed by Mrs. Margaret Marshall.

At William Beaumont General Hospital the Auxiliary was entertained in December. Colonel Thomas Scott spoke on "The Army Medical Corps." During the musical program which followed, violin solos were played by Miss Clara Jumper, accompanied by Miss Virginia Bean; The College of Mines Quartette sang, and Mr. Leon Cowles played accordion.

solos. Mrs F. O. Barnett and Mrs. T. C. Liddell poured tea at a tea table decorated in a red and silver Christmas motif.

Mrs. Paul Gallagher was the speaker when the Auxiliary met on January 9, at the home of Mrs. Harry Leigh. Her subject was "State Legislation Affecting The Medical Profession."

—Mrs. A. P. Black.

## COMMUNICATIONS

Sir:

We of the Committee would appreciate your carrying the following announcement in your next issue:

The Fourth Annual Spring Post Graduate Course in Ophthalmology and Otolaryngology will be held in Portland, Oregon, the week of April 3rd to 8th, 1939. We are proud to announce that we will be honored by the presence of two nationally noted guest teachers for the full week. They are Dr. John J. Shea of Memphis, and Dr. Webb W. Weeks of New York. This course is sponsored jointly by the University of Oregon Medical School and the Oregon Academy of Ophthalmology and Otolaryngology. The program is a diversified one; mornings are devoted to didactic lectures, afternoons are occupied with clinical work and at the evening sessions there will be classes at the Department of Surgical Anatomy. Added features to this "Fourth" course will be a course in cat's eye surgery given by Dr. Weeks, and Teaching Moving Pictures which have proven so popular at the American Academy meetings.

The Preliminary Programs will be ready about March 1st. These, and additional information can be secured by writing to me.

Very truly,

PAUL BAILEY, Sec'y.,  
929 Medical Dental Bldg.,  
Portland, Oregon.

### FIRST SYMPTOMS OF MALIGNANT TUMORS OF KIDNEYS IN CHILDREN

The first symptom in children of a malignant tumor of the kidney is usually painless enlargement of the abdomen or a large mass found in the upper part of the abdomen. H. Dabney Kerr, M.D., Iowa City, Iowa, points out in *The Journal of the American Medical Association*. This was true in twelve of the fourteen cases that he encountered.

Other symptoms may be present, but they usually accompany the abdominal enlargement or the mass. These additional symptoms are pain, nausea vomiting, constipation, diarrhea or general weakness and general discomfort. Therefore, on the finding of a mass in the upper part of the abdomen, usually painless, in a child 6 years old or younger, a presumptive diagnosis of a Wilms tumor of the kidney can be made. Of course, different types of tumors and growths of other organs must be excluded.

The best treatment for the condition is a full course of x-ray treatment followed by operation.

Operation should not be delayed beyond the time that the tumor decreases in size. It is worth while to irradiate secondary spreading tumors and local recurrences intensively. Two of the author's patients are still alive and without evidence of disease fifty-nine and fifty-two months after admission to the hospital.

### HOW TO DEVELOP NORMAL EATING HABITS AMONG CHILDREN

Methods for developing and maintaining normal eating habits among children are outlined by Ruth Peck McLeod, Knoxville, Tenn., in the February issue of *Hygeia, The Health Magazine*.

"Regularity of habits is one of the therapeutic measures necessary in correcting the poor appetite," the author says. "The child should have plenty of sleep in a bedroom where there is plenty of fresh air, should arise in time to have a warm breakfast and should have his three regular meals on time, whether or not the rest of the family are ready. Extra lunches should consist only of fresh fruits and milk, as these are the only foods that can be served safely without destroying the appetite."

Unpleasant discussions and criticisms of the child's manners often kill the desire for food. Parents' prejudices against certain foods should not be discussed before the child, nor should his failure to eat be made the topic of conversation.

"If the nervous child can be persuaded to lie down or relax or to read for at least thirty minutes before he eats, his stomach will be in a much better condition to handle his meal," says the author.

Too much indoor life in overheated houses with too little humidity may be responsible for poor appetite, she continues.

"If regular habits and sunshine do not produce a good appetite, then there must be an underlying cause which should be investigated."

## BOOK NOTES

YOU CAN SLEEP WELL. By Edmund Jacobson, M.D. Witlesey House, New York.

Anyone suffering from insomnia should read "You Can Sleep Well." The book is non-technical and easily read. The author lists the factors which prevent, and those which favor sleep. He gives six exercises for relaxation which are carefully described and illustrated. Dr. Jacobson believes that if you relax enough, sleep comes easily. Relaxation is the result of education rather than suggestion.

For the past thirty years the author has studied the problems of relaxation and sleep. This book is a successor to "You Must Relax."

—C. D. A.

SPINAL ANAESTHESIA. By Louis H. Maxson, A.B., M.D., J. B. Lippincott Company.

This is an excellent book for any surgeon to review carefully. It represents, I feel, the most complete analysis of spinal anaesthesia that has been published to date. Within its thirteen chapters the author covers every consideration regarding the procedure. It presents an unbiased study by an unprejudiced specialist in the field of anaesthesia.



An emphasized warning, that is alone worth the price of the book, is "It is not sufficient for the surgeon to administer the spinal and then to assign a nurse—any old nurse—to look after the patient while he operates." This has been my criticism of spinal anaesthesia to date. The procedure has been made altogether too casual. Spinal anaesthesia is an anaesthetist's work, requiring as complete knowledge of the indications and contraindications as the drop ether method.

It is an excellent book, one which I shall re-read at intervals.

—A. W. M.

THE TREATMENT OF FRACTURES. By Chas. L. Scudder, M. D., A. B., P. H. B., F. A. C. S., Consulting Surgeon of the Massachusetts General Hospital. Cloth. Price, \$12.00. 1209 pp., with 1717 illustrations. W. B. Saunders Co., Philadelphia and London, 1938. Eleventh Edition.

The latest edition of this classical work on fractures has been completely re-written from beginning to end. The book has been very greatly improved over the last edition. The previous edition did not have a large number of the newer methods of treatment in it, whereas the new edition is fully up to date. The subject of fractures is very thoroughly and completely covered from all standpoints. The x-ray illustrations are particularly good and clear and the diagrams and illustrations are easily understandable. About one-third of the book is devoted to general considerations about fractures while the remaining two-thirds are devoted to the treatment of specific fractures. The portion dealing with the general principles of treatment is really very excellent and is quite comprehensive while that portion dealing with specific treatment of fractures is good, but a little brief in some places. In general however, the treatment of specific fractures is fairly well covered with enough methods described to give the reader a good general idea of the subject. The newer methods of treatment are fairly well covered but some of them are not gone into. An example of this is where the author describes in detail Moore's method of pinning a fracture of the neck of the femur, whereas the use of the more commonly used cannulated Smith-Petersen nail is just barely mentioned, and neither the nail nor the technique described at all. What the author really does is describe one method and not touch at all on the other related types of treatment. Fractures of the lower leg are particularly well dealt with in this book, and so are fractures of the upper arm. The chapters of the book which deal with general principles and general methods of treatment are well written and comprehensive. The chapters on healing of fractures and pathological fractures are also very good. There are twelve of the sixty-seven chapters in the book which deal with the operative treatment of fractures both recent and old by open operations. In these twelve chapters the subject is covered quite completely. The part dealing with the mobilization and restoration of function of joints after fractures is good, and charts are presented showing the method of measuring joint motion. These are very instructive and valuable. The chapter on surgical

approaches to the bones is something which one does not usually see in books of this kind. In line with the best modern teaching of the subject of fractures the author stresses the principles of treatment and the value of having this basic knowledge rather than presenting in a didactic fashion specific fracture treatment. In general this book constitutes a very valuable addition to the few good books on the subject of fractures and this new eleventh edition is far superior to its predecessors. Both the general practitioner and the man dealing more particularly with fractures will find much of practical use in this volume.

—L. W. B.

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*"Beaumont and St. Martin"*

"Beaumont and St. Martin" is the first of six large paintings in oil memorializing "Pioneers of American Medicine" which artist Dean Cornwell will complete in the next few years. Others in the series are: Dr. Oliver Wendell Holmes, Dr. Ephraim McDowell, Dr. Crawford W. Long, Dr. William T. G. Morton, and Major Walter Reed, and one woman, Dorothea Lynde Dix who, while not a physician, stimulated physicians to study insanity and feeble-mindedness.

Arrangements to supply physicians with free, full color reproductions of "Beaumont and St. Martin" without advertising, and suitable for framing, have been made with the owners, John Wyeth & Brother, 1118 Washington Street, Philadelphia, Pa.

## HOW SULFANILAMIDE WORKS

The effectiveness of sulfanilamide in the treatment of certain diseases is due to its weakening of the invasive capacity of micro-organisms John S. Lockwood, M. D., Philadelphia; Alvin F. Coburn, M. D., and Herbert E. Stokinger, Ph. D., New York, declare in *The Journal of the American Medical Association*.

This action's effectiveness is determined by the type of lesion present rather than the causative bacteria. Sulfanilamide should be considered an agent which aids, and in no way replaces, anti-bacterial immunity.

The authors base their remarks on a study of 250 patients treated with sulfanilamide in 1936 and 1937. The bacteria were identified in each case. Each patient was seen daily by at least two of the authors. The drug was administered at intervals of either four or six hours, chiefly by mouth.

The infections treated were caused by the streptococci capable of dissolving the red blood cells and meningococcus (meningitis), gonococcus (gonorrhea), and pneumococcus (pneumonia).

The diseases treated included scarlet fever, tonsillitis, sinusitis, otitis (infection of the ear), mastoiditis, erysipelas, pneumonia, bacteremia, endocarditis (inflammation of the membrane lining the heart), primary peritonitis, chronic surgical infections with draining sinuses, early abscess forma-

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tion, cellulitis (inflammation of the tissues directly under the skin), infected diabetic gangrene, meningitis, puerperal fever and skin infections.

The ill effects due to the drug were: mild cyanosis, symptoms of the gastrointestinal tract and of the central nervous system, fever, abdominal pain and acidosis, severe rash, jaundice, anemia, hemoglobin in the urine and a deficiency of the white granule cells, and secondary reactions and late manifestations, such as fever, enlargement of the liver and spleen and severe cyanosis.

Sulfanilamide was most effective in the treatment of bacteremia, erysipelas and cellulitis; it was highly effective in early infections with little pus formation. It had a questionable effect in scarlet fever, tonsillitis, sinusitis, otitis and mastoiditis. It was ineffective when abscesses were well established, except perhaps in limiting their further spread and protecting normal surrounding tissues against invasion when drainage was used. The drug had no effect on toxemia of streptococcic origin.

The presence in the lesion of waste products and dead matter diminished the effectiveness of sulfanilamide on the hemolytic streptococcus. In each instance the organisms remaining in broken down tissue maintained their virulence. It is not known whether the waste products and dead matter had a protective action on the organisms or whether there was insufficient penetration of the drug into the point of infection.

### DOCTORS IN MUSIC

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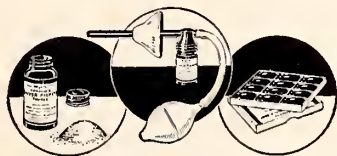
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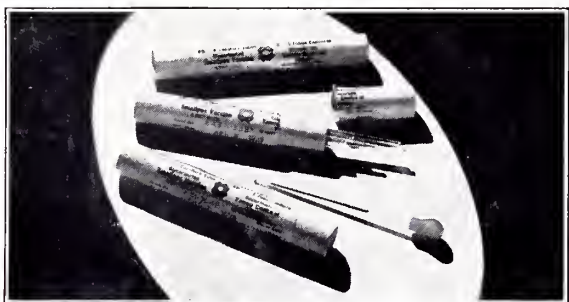
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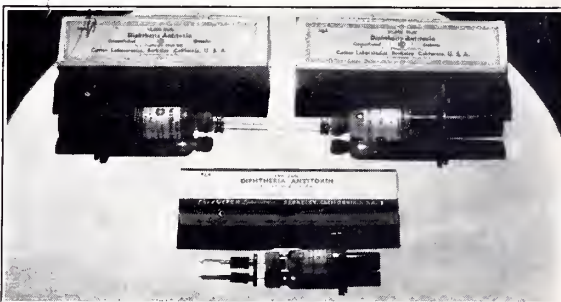
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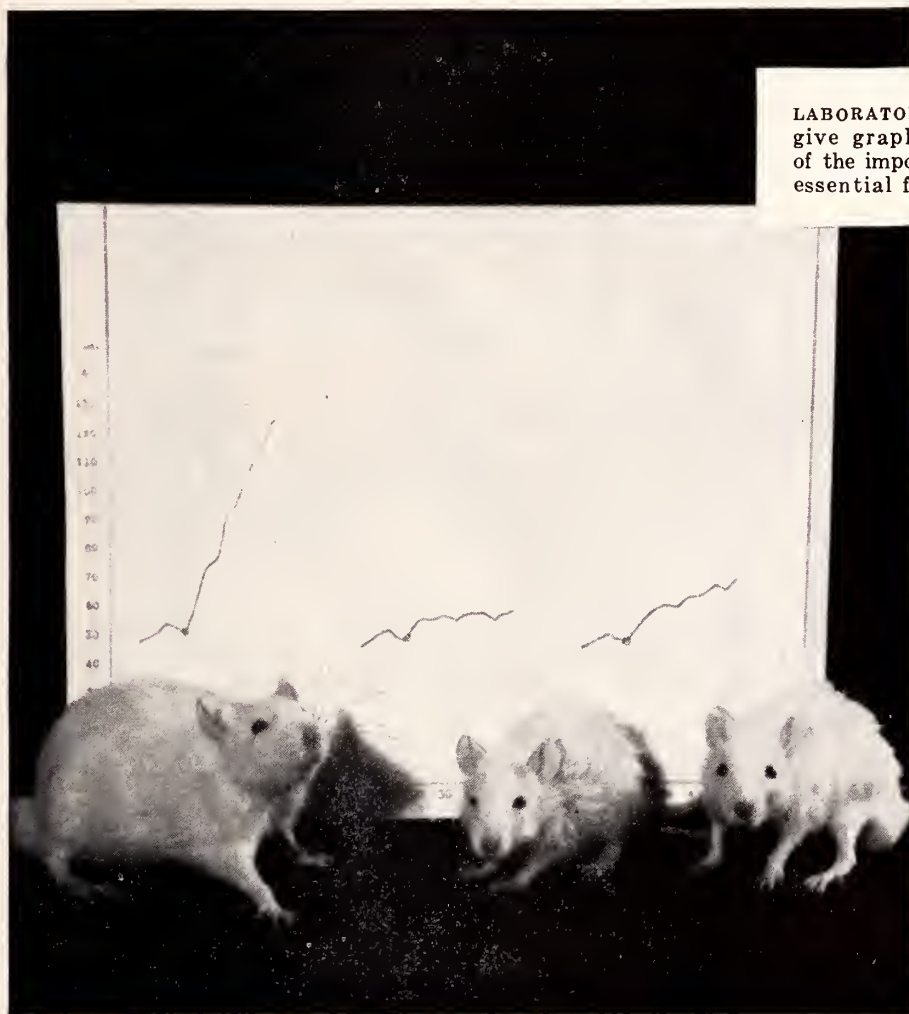
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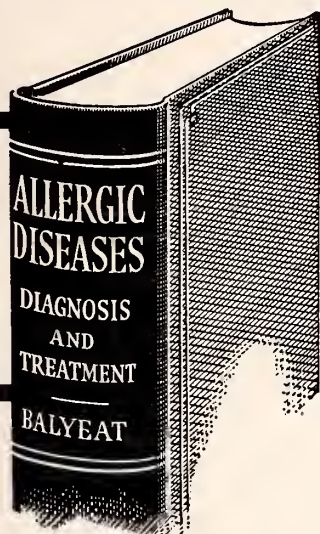
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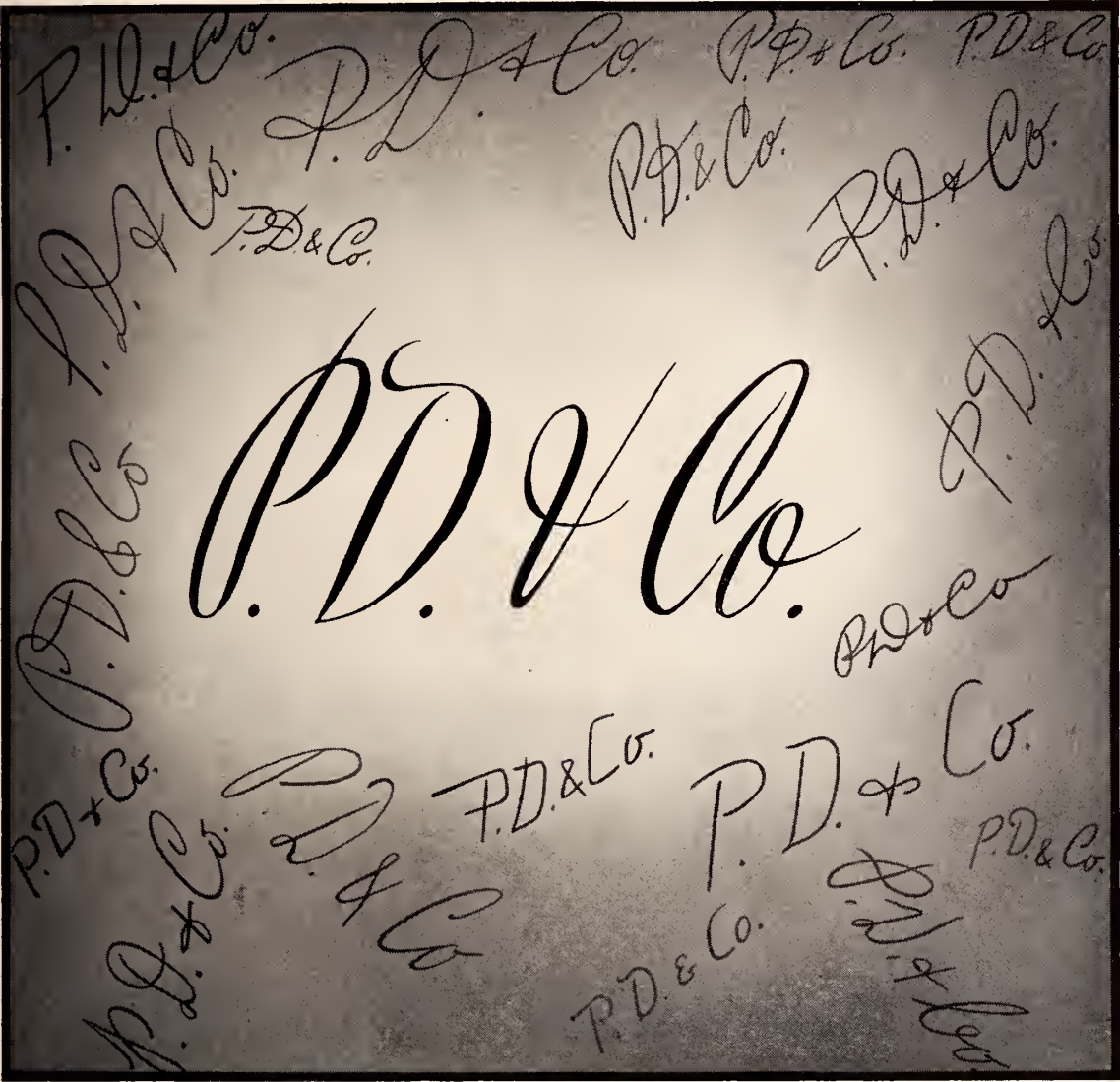
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● The past twenty years of biochemical research have steadily brought additions to the list of vitamin factors known to be indispensable in proper human nutrition. Today, only vitamins A, B<sub>1</sub>, C and D, riboflavin and the P-P factor are universally considered as essential to man. In general, the requirement for these factors is greater in certain phases of the human life cycle than in others.

This list of essential factors is probably incomplete. It has been aptly stated (1) that our species has evolved in the direction of lengthening rather than shortening the list of known dietary essentials. However, it is reasonable to believe that the above list, although incomplete, probably does include all factors whose absence from the ration may cause the most severe types of human dietary deficiency disease.

Investigations on the nutritive requirements and the biochemistry of the lower forms of animal and plant life constitute the frontiers of modern vitamin research. From studies such as these may come the first clues as to new vitamins which may ultimately be proven essential in human nutrition. For example, it was upon research of this type that the dietary requirement of the rat for riboflavin was established and

the importance of riboflavin (1) in human nutrition postulated.

During recent years, a large number of factors essential to animals other than man has been enunciated (2). As examples might be mentioned the factor in plant juices required by herbivora (3); the factor in fresh meat essential to trout (4); and vitamin K, needed for normal blood coagulation in fowls (5). Whether these or others of the factors essential to lower forms of life will also prove indispensable to man, the future must decide.

The knowledge that our present list of essential vitamins may be incomplete, need not be alarming. However, such knowledge should serve to emphasize the desirability of a diet formulated according to the best present concepts of the science of nutrition. Nature intends that man should receive all dietary essentials, known or unknown, through food and it will be through the medium of a judiciously chosen, varied diet that these essentials can best be obtained. Needless to state, the several hundred varieties of wholesome, nutritious, commercially canned foods lend themselves admirably to formulation of such varied, protective diets.

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(1) 1938. J. Amer. Med. Assn. 110, 1278.

(2) 1938. Ibid. 110, 1441.

(3) 1936. Proc. Soc. Exper. Biol. Med. 35, 217.

(4) 1928. Science. 67, 249.

(5)a. 1935. Nature. 135, 652.

b. 1935. Biochem. J. 29, 1273.

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## Cardiac Neurosis

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CARDIAC neurosis goes under a number of different terms, such as *effort syndrome*, *neuro-circulatory asthenia*, *irritable heart*, *soldier's heart*, and other names more or less descriptive of the symptoms or conditions under which the symptoms arise. Dr. Robert H. Halsey, New York City, defines it as "a visceral or organ neurosis defined as a disorder of the physiologic action of the heart produced by an emotional reaction of the patient." Dr. H. E. Richardson of St. Paul, Minn., describes cardiac neurosis as "the persistent fear of premature death or invalidism through the medium of heart disease."

This is an intensive subject and one which requires much thought and study. Believing that the best way to handle such subject is to use as few words as possible, I am going to give a few of the symptoms and signs of cardiac neurosis and discuss briefly the treatment, describing a few cases which I have encountered in the past eight months, which to my mind illustrate a few of the common types run across in every-day practice by the general practitioner.

### SYMPTOMS AND SIGNS

The most common symptoms are: 1. Dyspnea. 2. Palpitation. 3. Tachycardia. 4. Weakness. 5. Precordial pain. 6. Hyperasthesia. 7. Cough. 8. Faintness and dizziness. 9. Fear of death from heart trouble.

These, as you can readily see, are symptoms of organic heart disease, but in the patient with cardiac neurosis they are usually found in a more exaggerated form, and he usually has more symptoms, or at least complains more bitterly of them than one with organic heart disease would, with the exception of one having attacks of severe angina pectoris. These patients usually appear flushed and perspire freely. Usually their feet and hands are clammy. The heart rate accelerates greatly on exertion or with excitement, but soon quiets to a normal rate. Sometimes there is cyanosis, but it is usually blotchy in distribution. Some of these patients have a persistent cough. Precordial distress with precordial hyperasthesia are often encountered. These patients will often start at the slightest noise. They appear apprehensive and worried.

The majority of patients with cardiac neurosis is found among young adults, particularly young women, and occasionally it is encountered in young children, more rarely in people past fifty.

These cases usually present a neurotic background and the etiology of the condition seems to be, in a large part, a question of strain and stress in relation to the ability to meet this strain and stress. Sometimes the condition follows an infectious disease and it may develop very gradually, or at times more abruptly. The patient may carry on for a time without any cardiac symptoms and then the symptoms will be manifest following some fairly obvious strain or disappointment met by the patient. Some patients are inclined to imitate, and these cases are particularly interesting. Others simply fear heart disease. Endocrine upsets, sympathetic or vagus unbalance, poor metabolism, (and this type has been especially mentioned by Soma Weiss in the *Annals of Internal Medicine*, July, 1937) should be looked for in the etiology. In other words, it seems best to regard these patients as subnormal in some respect concerning their nervous system, preferably on a congenital or developmental basis. This idea gives a good key to an understanding of the limitations of treatment. Careful questioning will usually give a clue, which, with the entire absence of any organic heart or arterial disease, will justify a diagnosis of cardiac neurosis.

Usually these patients are definitely below normal in physique and nervous stamina. They do tire easily; they are not able to meet the normal stress of present-day living. Their symptoms, however, which convince them that they have heart disease are not caused by cardiac or arterial disease, but from general conditions of the body or nervous system. When physical examination is done usually there will be positive evidence of the symptoms found, but no evidence elicited that there is any heart trouble. There will be a rapid pulse, at which time there will be a snapping quality to the first sound at the apex, the pulmonic second sound may be accentuated, there may be a thrill or murmur, which often is pre-systolic and connected with a systolic murmur, which is not uncommon and suggests a slight degree of mitral stenosis. This was the diagnosis from which originated the terminology, "soldier's heart," during the World War.



The blood pressure may be elevated, particularly on the first examination, but the arteries show no sclerosis. As a rule, there is no arrhythmia, but in quite a number of cases extrasystoles are encountered. There is no cardiac enlargement, no signs of passive congestion, and no edema. The neurosis can be found in all stages, from a very early fear or phobia of heart disease, which may not develop to any extent, to the far advanced neurosis in which complete cure is almost impossible.

### DIAGNOSIS

Diagnosis depends on the failure to find any evidence of disease of the heart or vessels to explain the circulatory symptoms in a patient who gives evidence of defective physical or nervous development. This definition was taken from Christian's, "Diagnosis and Treatment of Diseases of the Heart."

There are three things to be considered in the diagnosis:

1. Is there structural damage and what is its etiology?
2. Is there a psychoneurosis arising from a fear of heart disease or fear of the results of heart disease?
3. Is there a visceral or organ neurosis which may be defined as a disorder of the physiologic action of the heart produced by an emotional reaction of the patient?

Sometimes it requires more than the efforts of the general practitioner or the cardiologist to establish the basic reason for a cardiac neurosis. A skilled psychiatrist may often be useful. The physician must, of course, exclude the possibility of organic disease, and this is not always easy. In fact, in a number of cases organic disease is present, but not causing the symptoms shown by the patient, such as compensated mitral stenosis. It is often hard to distinguish cardiac neurosis simulating angina pectoris from the true condition. Consideration must be taken of the exact type of pain, whether it increases on exertion, the way the patient describes it, and the general appearance of the patient. The history of the patient's observation of someone who had real angina pectoris will usually justify a definite decision. It is not safe, of course, to diagnose one of these cases until several visits or observations have been made, with the hope of witnessing an attack. In many cases it is better to call it a neurosis rather than true organic pathology when uncertainty remains. Some of these patients may simulate or suggest mitral stenosis as a diagnosis. History of the absence of acute rheumatism or chorea usually should clear this up. Hyperthyroidism can be eliminated by observation of physical signs or by a basal metabolism test. Tuberculosis, with its attendant weakness, dyspnea, rapid pulse, etc., may lead to suspicion of heart trouble, but this can be eliminated without much difficulty. However, it is well to have an X-ray of the lungs before making a final decision, especially in those cases with history of cough. Exercise does

not usually cause an increase in the symptoms in cardio-neurotics. The most valuable aid in diagnosis of the cardio-neurotic is a complete and comprehensive history.

In practically every case, somewhere in the history will be found a suggestion which has led the patient to become "cardiac-conscious," if such a term may be used, and in many cases precordial pain or distress is often the sensation which directs the patient's attention to the heart. Precordial pain is synonymous with angina pectoris in the mind of the average person and perhaps this is fortunate in a way if it will lead him to a physician who will make a careful and painstaking examination. The dread of heart disease may develop in an individual because of the tragic death of a relative or friend. I have found this to be the case in most of the patients against whom I have placed this diagnosis.

Paroxysmal tachycardia, and, in some cases, extrasystoles can be produced by the excessive use of tobacco and coffee.

X-ray may help in determining the exact size and position of the heart, but is rarely needed. Electrocardiogram rarely gives any help in diagnosis, but is extremely useful as a psychological treatment of the patient.

### TREATMENT

If one experiences trouble in diagnosing these cases, that is nothing to what he will experience when he starts trying to convince the patient that he has no heart trouble. In the first place, it is absolutely necessary to establish the patient's confidence and to convince him that he is getting an extremely thorough examination. Any suggestion of abnormality, no matter how trivial, should be investigated by all methods and means at the physician's disposal. Hurry and lack of thoroughness will destroy the patient's confidence in the physician, and if the patient is to be told that he has no heart trouble he must first have the feeling that the physician has studied him so thoroughly that he knows exactly what the condition is. When the physician is convinced that the patient's heart is sound and that the symptoms are due to cardiac neurosis, it will not do any good simply to tell him that he has nothing wrong with him unless he can explain at the same time why the patient has developed and is experiencing the symptoms which he has. It has always been my contention that the average adult will react much more quickly in showing his confidence in the physician if the physician will go to the trouble to explain the why and wherefore of every method of diagnosis. This may take a little more time, but with the articles published in the lay magazines, available to all patients, and with the amount of knowledge the patient has obtained from these articles and other sources, each one knows enough about these things so that additional knowledge is absolutely necessary if they are to believe what the physician tells them. It is no longer possible for the physician to

hold the patient's confidence if he is going to be secretive about his findings and simply tell the patient that there is nothing wrong.

After complete understanding between the patient and the physician is reached, the treatment in most of these cases is simply that of gradually bringing the patient back to a normal mode of living. In the more advanced cases, who have actually become mentally ill and lost confidence in themselves, this is likely to be a long drawn out affair of gradually increasing the exercise and instituting a general hygienic regime, increasing it with the patient's ability to handle it. There are some cases in which a complete cure is impossible. However, great improvement is possible in most cases. Any abnormality, such as foci of infection; namely, teeth, bad tonsils, sinus, etc., should be treated or eliminated, but only when it is definitely decided that there is disease. Tonic baths, cold sponges, adequated diet, and fresh air and exercise are to be used. It is usually not a good idea for the patient to be placed in a hospital or sanitarium, and drugs are not needed except in the extremely nervous cases, where some bromides are indicated. It is always a mistake to indicate in any way that heart disease is present. As I said before, it is much better to lean toward the side of neurosis rather than the side of actual organic heart disease. In cases where actual organic disease is compensated, "treatment must be carefully maneuvered, for complete reassurance cannot be given nor can all of the restrictions on activities be removed. The limitations should be minimal, but carefully worked out, judiciously applied and frequently checked." I quote from Herrmann's, "*Synopsis of Diseases of the Heart and Arteries*": "The patient's response to his relative freedom and reassured states must be observed unostentatiously and nonchalantly at rather frequent intervals."

#### CASE REPORTS

**CASE NO. 1:** Mr. G. K. Age, 53. Occupation, cabinet maker. First saw him on February 22, 1938. C. C., heart trouble and weakness.

**HISTORY:** Palpitation, pain in the epigastrium, right chest, and point of the left shoulder. Tenderness and hyperesthesia in the lower part of the left chest. This pain had been present for several years and at times was more marked than at other times. Pain was not relieved by soda, but takes soda before meals and seems to get some relief that way. Has attacks of indigestion. Has been told by doctors that he had heart trouble and he has been very careful since that time. Has been to eight different doctors in the city, but has not had the pain relieved, and his heart trouble has not gotten any better.

**FAMILY HISTORY:** Non-essential except that his father died with heart trouble.

**PHYSICAL EXAMINATION:** He is a thin individual with a "sick look." Heart sounds were normal throughout. Pulse, 76. Blood pressure, 110/82. On other examinations it varied from 110/82 to 102/80. Abdomen showed a moderate amount of rigidity in the epigastrium, but no marked tenderness. Heart was normal in size and position in the fluoroscope. Electrocardiogram was normal.

I saw this patient on an average of twice a week

for at least six weeks and tried to assure him that he had no heart trouble. He went out from under my care in May and I had not seen him since that time until a few nights ago, at which time he had another severe heart attack. I examined him and found his blood pressure 136/72 and his pulse around 80. The heart sounds were normal and clear-cut. He was having severe pain, which started in the upper right chest and moved down into the abdomen, and severe pain in the left shoulder. There was marked abdominal rigidity, which persisted in spite of large doses of morphine. He was operated after a diagnosis of perforated ulcer, and an abdomen with free blood in it was explored without any point of bleeding being found. Final diagnosis: Ruptured gastric ulcer of the posterior wall. Diagnosis was made on the length of time patient had had pain, character of pain, no pathology found, and history of father's death.

**CASE NO. 2:** Mrs. B. S. Age, 28. Occupation, nurse. First seen Jan. 6, 1938. C. C., heart trouble.

**HISTORY:** Showed that she had a moderate amount of constriction in the chest, a rapid pulse, and a sensation of smothering. This started about three weeks prior to the time that I saw her. These symptoms became so bad that she had to go to bed, but she was not relieved by complete rest of a week or ten days.

**PHYSICAL EXAMINATION:** Shows her to be a well-formed young woman. Chest is symmetrical. Heart sounds normal in character; heart appeared normal in size and position in the fluoroscope. Pulse was 134. Blood pressure, 120/80.

At the second examination her pulse was 140, and after a few minutes was down to 96. At the third examination the blood pressure was 126/82, pulse 144, and after a few minutes it dropped to 94. Electrocardiogram was entirely normal.

Blood count showed hemoglobin 66%, red count 3,400,000, white and differential count essentially normal. This young lady was put on a tonic and advised that if the hemoglobin did not come up in a short while she should be given a small transfusion. However, in a matter of a few weeks, after assuring her that she did not have heart trouble, her pulse was normal and she has had no recurrence of the attacks since. She had been told that if she did not quit working so hard she would develop heart trouble.

Diagnosis was made on no pathology being found, history of being told that she would develop heart trouble, no relief by rest in bed. Anaemia.

**CASE NO. 3:** Mrs. E. H. Age, 55. Occupation, teacher. C. C., heart trouble, with heavy feeling in the chest.

**FAMILY HISTORY:** Mother died with heart trouble one week ago.

**PERSONAL HISTORY:** Suffers with shortness of breath and inability to climb steps without becoming completely out of breath. This condition had been present for about six weeks. Her work makes it imperative that she go up and down steps several times a day, and she has decided that she had better quit work because she is afraid she will have a heart attack and die if she has to continue climbing the steps.

**PHYSICAL EXAMINATION:** Blood pressure, 128/82. Pulse, 86. Heart sounds were normal throughout. Heart was normal in size and position in the fluoroscope. Electrocardiogram was normal. This check-up was repeated again in two weeks, after a tonic was given her, and after she was assured that she had no heart trouble. This was repeated again in another two weeks, with a reassurance of no heart trouble. She is now in good condition and has suffered no recurrence of the



shortness of breath more than is natural in climbing steps at her age.

**CASE NO. 4:** N. D. Age. 41. Occupation. physician. C. C., weakness, edema, fever, cough, loss of weight.

**PAST HISTORY:** Was in an automobile wreck, at which time there was a fracture of the skull, involving the frontal bone and the zygomatic process, and a fracture of the left ribs and left shoulder. Following this a lung abscess developed at the left base, from which a large amount of sputum was expectorated, but which apparently healed very nicely. Some few months later a tuberculous infection was discovered at the right apex. He was brought to El Paso and put in a sanatorium, on strict rest, and after a period of three or four months the tuberculous infection cleared up nicely and he gained weight and was running no temperature. At about that time his pulse began to be quite rapid.

**PRESENT HISTORY:** Went to William Beaumont Hospital for examination and while waiting for the doctor he had a heart attack. He became very weak and dizzy, and described pain in his left chest and numbness in both arms. He was put to bed immediately and has been in bed practically ever since.

No stone was left unturned to arrive at a diagnosis in this young man's case. All laboratory tests were done. Blood counts have been essentially normal. Sputum has been negative for tubercle bacilli or any other form of infection. Wassermanns have been repeatedly negative. All agglutination tests negative. Electrocardiograms have been done repeatedly, all of them negative. Basal metabolism essentially normal, but at one time was low. Has been given thyroid for this with no improvement in his symptoms. At one time a weak positive for Malta fever was found and he was put

on Sulfanilamide for this, with no good effect. At about this time he was running some fever, but it cleared up in about a week or ten days. During all of this time he had complained of pain at intervals in his chest and points of tenderness over the precordium. During these times his pulse might or might not get rapid; the blood pressure might or might not come up, but frequently following these attacks petechia would appear on the feet and ankles or probably on the hands and arms. He said at times he could feel these petechia appearing in his intestines. The heart sounds have always been clear-cut and the heart has never been found enlarged on physical examination or by X-ray appearance.

The last treatment that was given him was not given in an effort to treat him, but a spinal puncture was done for diagnosis. Pressure was normal and all laboratory work done on it was normal, so that nothing new was derived to help us with our diagnosis. Immediately following that the patient started getting better and he has continued to improve ever since. He is now going out for rides two or three times a week, something he would not even attempt for a year and a half. He is not running any fever, his pulse rate stays down regularly, he has had no recurrence of pain, and has not had any recurrence of other symptoms such as edema or any petechia.

I bring this case up to show the difficulty in diagnosing some of these cases and to show that one cannot be sure he has diagnosed properly in any of these cases. Something more than a cardiac neurosis certainly has been wrong with this patient and I am not at all sure that cardiac neurosis is the proper diagnosis at present. However, we will continue this treatment, hoping that the improvement will continue.

First National Bank.

## Tumors of the Oral Cavity

GEO. W. JONES, M. D.

Baltimore, Md.

**I**N THIS discussion the oral cavity is meant to include the mouth with its vestibule and fauces, limited in front by the lips and behind by the pharyngopalatine arches (posterior pillars). Inasmuch as the greater part of this cavity is lined by mucous membrane it is natural that most tumors as well as pathological conditions in general arise in or disturb this lining. The malignant tumors arising in the lining membrane comprise the large class of tongue, buccal, and tonsil carcinomas. Benign lesions affecting the membrane are divers and may be part of the picture of systemic disease or entirely local affections. Among the former such diseases as tuberculosis, syphilis, leukemia, scurvy, pernicious anemia, measles, scarlet fever, pellagra, pemphigus, lichen planus, agranulocytic angina diphtheria, typhoid and pneumonia are included. Pregnancy may produce hypertrophy of the gums and sensitivity to drugs such as barbital, acetanilid and antipyrin compounds may cause oral eruptions. (1) Numerous, also, are the more or less distinctly local conditions such as canker sores, leukoplakia, papillomas, mucositis from irritation or trauma, pyogenic inflammations and granulo-

mas, thrush, chronic apthae (periadenitis mucosa necrotica recurrens). Fordyce's disease, actinomycosis, pyorrhea, Vincent's infection, noma. Scrotal, black, and geographic tongue and glossodynia may be the reason for seeking professional advice. The etiology of the latter is obscure, but we must admit that the subjective pain usually along the sides of the tongue is a real affliction in a certain percent of women. It has been noted that some of these cases show enlargement of the glands on the sides of the tongue which lie just in front of the anterior pillars. These glands in the lower animals, such as the rabbit, are quite large and have been called foliate (leaf like) papillae. Whether real or fancied, I have seen the pain entirely disappear after the application of 25 mgrs. of radium to these glands or by electrocoagulation.

Intra-oral tumors may arise from or in structures other than the mucous membrane and present into the oral cavity. These tumors may be cystic or solid. The cystic forms are usually of epidermal origin and include ranulas, mucus cysts, dental root cysts, follicle or dentigerous cysts, simple bone cysts, dermoids and thyroglossal cysts. The solid

ones are frequently of mesodermal origin and include gum boils, epulides, fibromas, lipomas, osteomas, exostoses (torus palatinus), mixed tumors of salivary type, and sarcomas. Hem- and lymphangiomas, admantinomas, and giant cell tumors (osteitis fibrosa), depending on their cellularity, may be cystic and solid. We also see invasion of the oral cavity by advanced carcinoma of the lip, antrum, or nares, by necrotizing affections of the neck, by basal fibroids.

We, then, by inspection and palpation, attempt to decide whether the tumor is primarily of the mucus membrane or whether the membrane is being secondarily invaded or involved. After the local examination has revealed the characteristics of the lesion a general examination must be done to ascertain not only the general state of health (treatment might be influenced by the presence of age, debility, hypertension, myocarditis, etc.), but also to find out if the local lesion may be a manifestation of systemic disease. Metastases must be searched, for although, as a rule, metastases are local to the neighboring lymph glands and not widespread. The presence and extent of secondary infection should be noted. The chief laboratory aids will be biopsy diagnosis, bacteriological examination, Wasserman, blood counts, and X-rays. Sex, age, occupation, habits and history help us form probabilities and conclusions.

If our patient presents an ulceration, its extent in width and depth is noted. Especially do we wish to know the amount of infiltration and bimanual examination usually gives us a good idea. Do not hesitate to perform biopsy if the age of the patient, duration of lesion, and its characteristics are compatible with carcinoma. In considering intra-oral carcinoma we should distinguish those arising on the tongue from those occurring on the buccal surfaces, alveoli, palate and tonsils, as we find that prognosis varies for different sites. It is generally true that the degree of malignancy increases from the lips in front to the pharynx behind.<sup>2</sup> Welch and Nathanson<sup>3</sup> found the median life expectancy in carcinoma of the lip to be 66 months, buccal mucosa, 24 months; upper alveolus, palate and lower alveolus, 18 to 20 months; tongue, floor of mouth and tonsil, 15 to 17 months, and pharynx, 14 months. Carcinoma, too, is much more frequent in the lower rather than the upper one-half of the mouth.

If we are dealing with a swelling instead of an ulceration we determine its nature as to fluid content, softness or hardness, pulsation, movability and nature of the epithelium covering it. If thought to be cystic, aspiration is tried. Aspiration may also be used in an attempt to obtain diagnostic tissue or cells from a solid tumor. As a rule, the benign conditions such as gum boils, ranulas, cysts, epulides, etc., constitute the "swellings," while carcinoma is usually an ulcerative and infiltrative lesion. The exfoliative cauliflower type of carcinoma is rarely encountered in the oral cavity.

#### PRE-CANCEROUS LESIONS

As in carcinoma of the skin, so in carcinoma of the mouth we find frequently a pre-cancerous condition or forerunner of cancer. Leukoplakia of the mucus membrane is comparable with keratosis of the skin and both may be the starting point of malignant change. Different forms of irritation are considered to be the cause of both, but individuals exposed to like irritations may not develop comparable leukoplakias or keratoses. I am not convinced of the part that tobacco, faulty teeth, and dentures play in the formation of leukoplakia. Leukoplakia is infrequent in women, although they, of course, may have faulty teeth or wear dentures. As to tobacco, time may give us the correct answer now that smoking among women is so popular. Syphilis is definitely a cause of leukoplakia and glossitis of the tongue, and a certain percent of carcinomas develop on this favorable soil. I have found percentage figures ranging from 3.5% to 92% for the association of syphilis and carcinoma of the dorsum of the tongue. This seems a wide discrepancy, but there is no doubt that a considerable percent of carcinomas do develop upon a syphilitic background. Boyd<sup>4</sup> says, quite correctly, I think, that when a patient with a chronic ulcer on the dorsum of the tongue is found to have a positive Wasserman to regard it as malignant until proved otherwise. I have seen a patient with heavy, thick syphilitic leukoplakia on the tongue develop carcinoma at two separate sites right "under my eyes." Irrespective of the Wasserman reaction, however, a chronic mouth ulcer in a male over 50 years of age should be biopsied. Ulcers in younger people or of shorter duration may respond favorably to silver nitrate, but if they do not respond in a reasonable time a portion of the ulcer, its edge and adjacent tissue should be excised for histological study. A person with well developed leukoplakia should be advised to be examined at intervals or whenever some change such as heaping up, increase in size, or cracking occurs. Treatment directed toward clearing up the leukoplakia, such as stopping the use of tobacco, frequent rubbing and scouring with soap, and the ingestion of vitamins containing fresh whole milk, carrots and cod-liver oil is, in my observation, only occasionally successful. But such treatment serves the purpose, at least, of making the patient mouth and cancer conscious, so that he can catch early any special change in the nature of the leukoplakia. In going over Dr. Bloodgood's records in his laboratory at John Hopkins Hospital I find that he was highly encouraged over the prevention of skin carcinoma from keratoses by simply using frequent cleansings with soap and water followed by alcohol, but as much cannot be said of such treatment for leukoplakia.

In general, it may be said that carcinoma of the tongue involves the lateral margins most frequently, then the base, then the top. The stage or degree of advancement of the disease is more important than the position on the tongue.<sup>4</sup>



## TREATMENT

The proper treatment for intra-oral carcinoma is, I believe, the following: For carcinoma of the tongue in an early case without demonstrable metastases excision with the scalpel, cautery, or electro-surgical current should be as good as any. A wide margin should be allowed for. Unfortunately, due to the extremely rich lymphatic drainage and the constant muscular movements, metastases may be present early or present evidence of their presence after the primary carcinoma has been removed and it was hoped that a cure had been effected. Some physicians prefer to treat the neck for the possibility of metastases even though there is nothing palpable to warrant the impression that metastases are present. Others prefer to wait until you "see the whites of their eyes" meaning to reserve irradiation until more definite indications are present. Having seen carcinoma recur post-operatively right at the time when X-ray therapy was being used, I am not convinced that prophylactic irradiation can be of much value.

For larger sized growths irradiation followed by surgical excision or insertion of radon around the tumor is probably best. Or the radon could be inserted around the tumor and followed later by X-ray therapy. Direct contact application of radium or the use of a radium "bomb" is not indicated here. The question of operability of neck metastases is similar to that described in my article to be published in a future issue of SOUTHWESTERN MEDICINE on "Tumors of the Lips." The two major contra indications are: (1) fixation of the node signifying that the carcinoma has broken through the capsule of the gland, and (2) bilateral nodal involvement. I am not acquainted with the implantation of radium or radon into the glands, but this method is practiced at Memorial Hospital in New York. We all must admit, however, that the presence of neck metastases denotes a very poor prognosis in spite of any method of treatment. It has been asserted, however, that the five-year "cure" rate for tongue cancer in the best clinics has risen in the past 25 years from 10 to 26% of all cases.<sup>5</sup>

The treatment for buccal and alveolar carcinoma is more satisfactory. Neither metastasizes so readily as tongue carcinoma. Surely if we can do anything for our cancer cases it should be in those cases in which metastasis does not have to be com-

bated with such regularity. Contact radium therapy and/or X-ray therapy usually controls these carcinomas. Some may be entirely removed by surgery or electro-surgery. Low voltage, "contact," X-ray therapy as is obtained with the Chaoul tube is successfully used by Widmann at the Philadelphia General Hospital. He, however, restricts his cases for this type of therapy to those which show a minimum amount of infiltration, say up to ½ cm., as this irradiation is more of the superficial rather than the penetrating type.

It is commonly believed, I think, that lymphosarcoma of the tonsil is the usual malignant neoplasm of the tonsil. Park and LeFevre,<sup>6</sup> however, found that carcinoma of the tonsil accounted for 9.64% of intra-oral lesions, which was ten times the incidence of lymphosarcoma. Possibly lesions formerly diagnosed as lymphosarcoma are now being called lympho-epitheliomas (or transitional carcinomas). The fact, too, that epithelium comprises a large part of the tonsil lining the the outside and dipping into the crypts with their branches, affords bountiful opportunity for carcinoma of this region. Extension of tonsil carcinoma is frequent to the tongue or across the anterior pillar to the buccal mucosa. When one is confronted with a large neck nodule of undetermined origin the search must be exhaustive for a small lympho-epithelioma of the tonsil or pharynx. I find Bloodgood stating that he never cured a carcinoma of the tonsil by surgery. X-ray therapy and interstitial radium or radon constitute the best treatment. Duffey<sup>6</sup> gives the five-year survival rate as 20.4%.

There is no part of the body which presents such a wealth of pathology as the oral cavity. Affections picked up in the mouth may be the key to an otherwise obscure diagnosis. When "looking at the tongue" it pays dividends to take a little better look all around the oral cavity.

The Johns Hopkins Hospital.

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## Blind Nailing of Fractures of the Neck of the Femur

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FROM the standpoint of improvement in end results, one of the most striking advancements in the treatment of fractures in the last 20 years is the treatment of fractures of the neck of the

femur. Up until 1918 the treatment of these fractures was very unsatisfactory. There was no standardized method of treating them and only a small percentage of cases got solid bony union. Some men employed the application of a spica cast to the

\*Read before the El Paso County Medical Society, Jan. 23, 1939.

hip, while others treated the patient with traction in bed. Due to the high percentage of poor results with treatment many men were satisfied to do no more than make the patients as comfortable as possible and let them go ahead to a non-union. The first great advance in the treatment of fractures of the neck of the femur came in 1912 when Whitman introduced his abduction method of treatment of these fractures. He analyzed the mechanism of production and reduction of these fractures and showed that by manipulating the hip with traction in flexion and then internal manipulating the hip with traction in flexion and then internal rotation, followed by extension and abduction, a very satisfactory reduction of the fracture could be obtained. He further showed that after reduction, by simply holding the hip abducted and internally rotated, it was possible to keep the fracture in good position. The method he employed to retain this position was a double spica cast with the foot included on the affected side. This method improved the percentage of good results, and firm bony union was reported in from 40 to 60 per cent of the cases.

Although efforts at internal fixation had been made, no definite advance in the treatment of these fractures occurred until in 1931. In this year N. M. Smith-Petersen of Boston, Mass., first brought out his method of treatment of these fractures by holding the fragments together with his three-flanged nail. In his original method the hip was exposed through a long anterior incision and the fracture site opened widely and the fragments brought into position. The nail was then driven in under direct vision. The three-flanged Smith-Petersen nail was quickly taken up by many other workers in the field and the technique improved upon. Johansson of Gothenburg, Sweden, conceived the idea of putting a hole through the center of the Smith-Petersen nail. The purpose of this hole was to allow the preliminary insertion of a guide wire across the fracture site, over which the nail could be fitted. In order to do this operation a small lateral incision is all that is necessary. This blind nailing, as it is usually called, is entirely dependent for success upon the use of the X-ray to ascertain exactly where the guide wire is placed. In 1932, the same year in which Johansson brought out his modification of the nail, Leonard and George introduced a new and more satisfactory method of making lateral X-rays of the hip joint by the use of a curved cassette. These curved cassettes, or film holders, in combination with the modern shock-proof X-ray equipment, makes it possible to get excellent lateral roentgenograms of the neck of the femur. Since that time numerous small modifications and improvements have been introduced until at the present time the introduction of the Smith-Petersen nail in the case of a fracture of the neck femur is a relatively innocuous procedure from the standpoint of producing shock.

There is nothing more deplorable than to see an

aged person in relatively good health have the great misfortune of breaking his hip, and having it fail to unite. If this occurs he is doomed to walk with one or two crutches for the rest of his life, and is a permanent cripple. The high percentage of firm bony union obtained by the use of the nail has changed this picture entirely. In fractures in which the Smith-Petersen nail is properly placed a good solid union with an excellent end result may be expected in approximately 85% of the cases. There are some contra-indications to the use of the nail, the chief one being a very poor physical condition of the patient. In those old people with severe constitutional disease, as heart disease, kidney disease or other infirmity of sufficient magnitude to make them a very poor operative risk, this procedure is not advisable. On the other hand, any person whose physical condition is fairly good and can be expected to stand a moderate sized spinal anaesthetic will usually go through the nailing of the hip without incident.

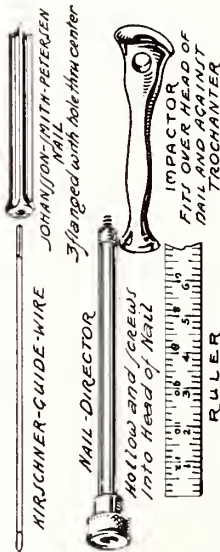
#### HIP FRACTURES CLASSIFIED

Fractures in the region of the hip are divided into two main classes: Those of the neck; that is, those lying in the area from the head to the upper part of the shaft of the femur or trochanteric region, and those lying in the region of the trochanter itself. Fractures of the neck of the femur and fractures in the region of the trochanter are entirely different as to their treatment and prognosis. In general, the prognosis in fractures of the neck of the femur treated by the Whitman abduction method becomes increasingly worse the closer to the head the fracture lies. That is, fractures near the trochanter do much better than fractures close to the head. There is one fracture of the neck of the femur, however, which does very well. This fracture is an impacted fracture in valgus position, or with the trochanter lying more under the head than normally and the angle between the head and the shaft very obtuse. This particular type of fracture will heal without open reduction or any further treatment than simple immobilization in abduction for a period of a few weeks. Smith-Petersen nailing should be done in all other fractures of the neck of the femur where there is not some contra-indication to the procedure in the general condition of the patient or otherwise. There are many advantages to this method of treatment. In the first place, accurate reduction and fixation promptly eliminates all pain at the fracture side. These patients do not have the severe aching and cramping pains in the hip that are present in the cases where the fracture has not been properly reduced and held. The patient may be allowed to sit up immediately after the operation, preferably at the end of the first day, and this is a great advantage because it reduces to a minimum the danger of hypostatic congestion in the lungs and pneumonia. The patient can move around in bed, and the danger of decubitus ulcer forming is greatly reduced. It is not necessary to



## TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR

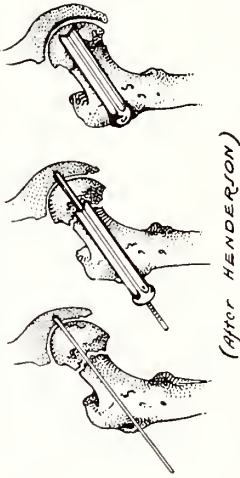
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INSTRUMENTS USED IN  
BLIND PEGGING WITH MITH-PETERSEN NAIL

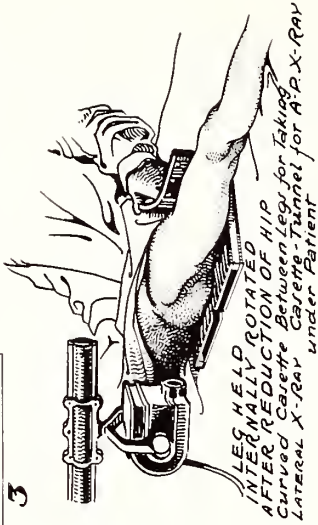
Two are used. One in the instrument set. The other to measure X-Ray to determine length of nail needed

2

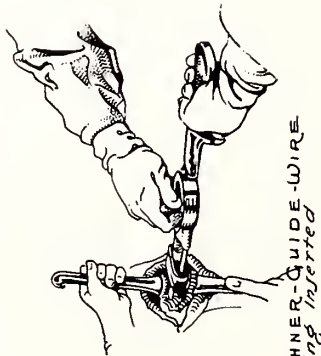
DIAGRAM OF METHOD



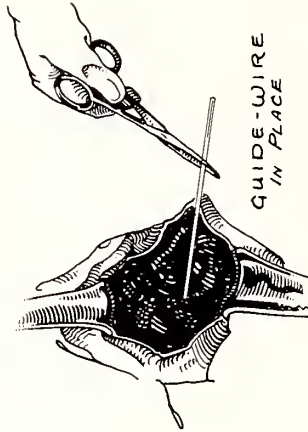
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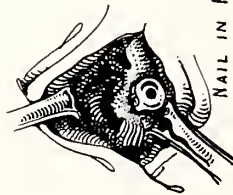
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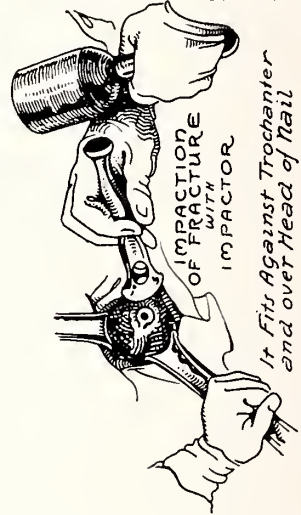


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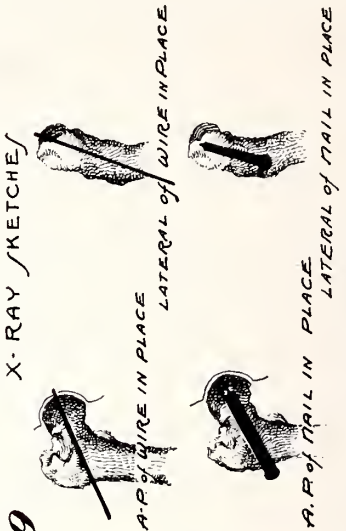


DIRECTOR HAS BEEN UNSCREWED FROM  
NAIL AND REMOVED. THE GUIDE-WIRE  
HAS BEEN TAKEN OUT

8



9



apply any form of fixation, or cast, in these cases after the operation, and this is of immense advantage in many ways.

#### TECHNIQUE OF BLIND NAILING

The technique employed in blind nailing of the neck of the femur will be described herewith. Following the occurrence of the fracture, the patient is admitted immediately to the hospital and adhesive traction or Buck's extension applied to the affected leg. Six pounds traction or so are applied to take the tension off the fracture site and make the patient more comfortable. The patient is then carefully studied from every angle and such laboratory tests done as are necessary to get a complete idea of the patient's general physical status. The patient is then observed for a period of three to six days or occasionally a little longer in cases where the physical condition is questionable. After several days and as soon as it has been concluded that the patient's general condition is sufficiently good to withstand the relatively small procedure of inserting the nail by the blind nailing method, the operation is gone ahead with. The anaesthetic of choice in these cases is spinal anaesthesia. Some men will undoubtedly object to this statement and a local or gas anaesthetic may be used if desired. As soon as the anaesthetic has been given the patient is placed on an ordinary operating table and the fracture of the neck of the femur reduced by manipulation. This is done quite easily by externally rotating the leg and then flexing it and making strong traction. The leg is then adducted and internally rotated and then extended to lie flat on the table. It is kept internally rotated strongly by an assistant who grasps the foot firmly and keeps it in position, and this prevents the fracture from slipping and re-displacing. The next step is to make antero-posterior and lateral X-rays. The lateral X-ray is made by using the curved cassette which is placed between the patient's legs and, pushed firmly up into the perineum. The X-ray tube head is placed close up to the patient up toward the head and is directed at the region of the neck of the femur. The method of placing the cassette and tube head is clearly shown in illustration No. 3. Following the taking of the lateral X-ray the A-P X-ray is taken. This is done by placing a cassette tunnel or holder under the patient's buttocks so that it lies directly under the fracture site. The cassette itself is then readily slipped in and out of this tunnel without disturbing the patient. The tube head is then adjusted to lie over the fracture site and point downward on it and towards the cassette. The use of this cassette tunnel is very important for it allows the easy introduction and removal of the flat cassette used in taking the antero-posterior X-ray without disturbing the drapes over the patient after the operation is started. This cassette tunnel is likewise shown in illustration No. 3.

Following this, the patient is then prepared and draped, and the incision is made over the upper

end of the femur and directly lateral to it. The incision should center over an area of about 2½ inches below the uppermost portion of the greater trochanter. It is usually necessary to make an incision at least 4 inches long to get adequate exposure. The making of the incision itself is accompanied with practically no shock inasmuch as the incision goes through skin and subcutaneously tissue only. The lateral aspect of the upper end of the femur is then exposed usually without cutting through any muscle at all. The next step is to place the Kirschner guide wire across the fracture site in the direction which the nail is to take. This is probably the most difficult and certainly the most important step in the procedure. By the time the operator is ready to place the Kirschner wire he will have back the X-rays taken immediately after the reduction of the fracture. These X-rays are carefully studied and then the area on the femur located where the wire is to enter. Using a hand drill type of Kirschner wire inserter, careful aim is taken and the wire placed, judging the direction and angle from the X-ray. Antero-posterior and lateral X-rays are taken immediately and developed as quickly as possible and returned to the operating room. If the wire is accurately placed the operator is ready to proceed with the next step in the operation. If the wire is not accurately placed as shown in both the A-P and lateral X-rays the wire should then be redirected. If it is necessary to redirect the wire it is wise to lay a sterile wire on top of the drapes on the patient in the exact direction in which the first wire was placed, so that when it is removed and the second attempt at placement of the wire made its direction may be compared to the course of the first wire. The wire should be redirected until accurate placement is obtained. The wire does not have to be placed exactly in the center of the neck of the femur, but should be placed fairly close to this area. After a little experience it is very rarely necessary to make more than two attempts and practically never necessary to make more than three to place the wire accurately. Illustration No. 4 shows the placing of the Kirschner guide wire with the hand drilling, and illustration No. 5 shows the guide wire in place.

After the guide wire has been accurately placed the next step in the procedure is to determine what nail to use. At least four nail sizes should be in every operating set, the sizes being 3 inches, 3¼ inches, 3½ inches and 3¾ inches. Before starting the operation the length of the area where the wire is to be placed should be measured to make sure that a nail longer or shorter than the extremes of these four nails is not going to be necessary, and if it is going to be needed a larger nail should be included. An assistant who is not scrubbed up to help at the operation carefully measures on the A-P X-ray taken after reduction the distance from the point of entry of the guide wire into the femur to the deepest point in the head of the femur where the guide wire points. A nail is used which is one-



half inch shorter than this measurement. The reasons for this difference are that the nail should only extend within a quarter of an inch of the acetabulum and that a quarter of an inch is accounted for by the magnification of the nail in the X-ray, due to the projection of the nail on the X-ray film. A steel rule is included in the instruments sterilized for performing the operation and this is used to measure the sterilized nails to select the right one.

The end of the nail has a small hole in it which is threaded to receive the long shaft of the director which fits onto it. The director is a long steel rod and it and the attached nail are carefully threaded over the Kirschner guide wire. Just before doing this, a small chisel is used to make a cut at the point of entry of the wire into the bone. Cuts are made in three directions to correspond with the flanges of the nail. The nail and impactor are then driven into the cortex with firm blows from a heavy mallet and on over the Kirschner wire into place. The director is then removed and the Kirschner wire pulled out. Check-up X-rays are made at this point to make sure that the nail itself is in proper position. By looking at figure 6 the director and nail may be seen being driven into the femur over the Kirschner wire. Illustration No. 7 shows the director and wire removed and the nail in place. As soon as the A-P and lateral check-up X-rays are brought from the developing room they are carefully inspected and if everything is satisfactory the fracture site is impacted. This is done with an impactor, which is a heavy instrument with a hole in its end which fits loosely over the Smith-Petersen nail and does not make contact with it. The surface of the impactor is molded to conform with the lateral surface of the femur. This impactor is fitted over the nail and against the femur, and several firm blows made upon it to snug the portion of the femoral neck on the trochanteric side up against the capital portion of the neck. Following this, the nail is again given two or three blows to snug it into place. Illustration No. 8 shows the impactor in use.

This completes the operative procedure. The wound is closed in layers and a dressing applied. No cast is necessary and the leg is left entirely free at the end of the operation.

One of the most important phases of the operation is getting the X-rays back from the developing room as quickly as possible. By slightly overexposing the X-rays and developing them as quickly as possible, they may usually be had back into the operating room in less than 5 minutes. Paper negatives and warm developing solutions have been used to further speed things up, but, in general, these are not entirely satisfactory. Accurate X-ray control is absolutely necessary in order to do the procedure of blind nailing of fractures of the neck of the femur. Illustration No. 9 shows the anterior-posterior and lateral X-rays of the Kirschner guide wires in place and also of the nail itself in

place. It is true that the operation is somewhat tedious and often time consuming if it is necessary to redirect the wire several times. However, with the patient under a spinal anaesthetic and with only a very minimum amount of actual operative work being done there is very little shock.

#### POST-OPERATIVE CARE

Following the operation the patient should be kept in bed for four to eight weeks, but may sit up in bed, and is encouraged to do so. He may be allowed to get in a wheel chair at the end of this time. If the X-ray at the end of three months shows no change in position and apparent beginning union, the patient may be allowed up with crutches. Weight bearing should not be commenced until



*X-Ray of Case 1*

there is evidence of firm union in the X-ray. It is unquestionably true that weight bearing may be begun immediately after the operation, but it is unsound physiologically to start weight bearing before there is some evidence of union, and it is much safer to wait. Blind nailing with the Smith-Petersen nail may be done as late as eight weeks after the fracture has occurred with good assurance of obtaining bony union. Many cases have been reported in which delayed nailing was done and a good result obtained, but in very late cases there is less chance of obtaining union. In cases operated on a month or more after receiving fracture it is usually safer to apply a Buck's extension traction

to the leg after the operation and leave a six-pound weight on the leg for six weeks or so. This serves to take some of the stress and tension off of the fracture site and the nail by reducing the muscle spasm about the hip. There is a great deal of discussion as to whether or not in older cases it is better to do an open reduction, expose the fracture site widely, and remove all the fibrous tissue between the bone ends. Many people believe that this is best, but there are others who have had very good results by simply inserting the nail blindly across the fracture site disregarding the fibrous union. Following this, union usually occurs very satisfactorily. In general, open reduction with freshening of the bone ends should be reserved for those late cases in which there is some special indication.

The matter of when to remove the nail is also a point over which there is some controversy. During the first few years of use of the nail it was advocated that the nail be removed at the end of nine months to a year. However, in a few cases after removal of the nail a separation of the fragments has occurred, so that now the tendency is to leave the nail in permanently. If there is any special reason to remove it, it may be readily removed under local anaesthesia without difficulty. However, since it is one piece of stainless steel it is usually not irritating and there is no particular reason for taking it out. In general, it is much better to remove any metal which is left in bone, but in these old people in which solid union is of so much importance it is safe to go ahead and leave the nail in.

#### CASE REPORTS

Two cases are being reported which illustrate special features:

**CASE ONE:** Mr. C. K., age 75, was injured on July 9, 1938, when he stepped off a street car and fell down. He landed on his left hip and had immediate pain. He was taken to the hospital, where the fracture of the hip was reduced under a general anaesthetic and a Whitman abduction applied. This cast was left on six weeks and was then removed and check-up X-rays taken. The X-rays showed no union whatever and the femur had ridden up on the head about three-quarters of an inch. At this time the case was referred to the writer by the general surgeon who had him under care. Two X-rays were made, one with a strong down-pull on the leg and one with a moderate up-push on the leg, and these two X-rays compared. There was found to be about one-half inch motion at the fracture site as revealed by the X-rays. It was decided to perform a blind nailing with a Smith-Petersen nail on this patient inasmuch as he was in good physical condition. The patient was given a spinal anaesthetic consisting of 150 milligrams of novocaine crystals dissolved in spinal fluid. The patient was placed on a fracture table and strong down traction made on the affected leg. Check-up X-rays were taken which showed the fracture to be in good position. The operation of blind nailing with a Smith-Petersen nail was done and check-up X-rays showed excellent placement of the nail. The patient was not bothered at all with the operation and left the operating room in fine condition. He had no post-operative shock and was able to eat a light supper on the day of the operation. On put-

ting him to bed a Buck's extension was applied to the affected leg with eight pounds traction. The day after the operation the patient was propped up well in bed and motion begun in the affected leg to a slight extent. This motion was increased gradually. The patient was kept in bed three months, at the end of which time the X-ray showed a good deal of bony union with trabeculae crossing the fracture site. He was then gotten up with crutches and at the end of another six weeks was walking without crutches and with no pain and practically no limp. This case is presented particularly to illustrate the fact that this procedure is very useful even as late as seven weeks after the fracture has occurred. Attention is called to the fact that this patient was done on a fracture table and that traction was applied to secure good position of the fracture. This was done because the case was seven weeks old. Adhesive traction, Buck's extension was also applied for the same reason.

**CASE TWO:** Mr. E. S., age 68, was injured in a fall in his house on May 12, 1938. He was brought to the hospital in considerable pain and in a state of great agitation. He was put to bed and carefully observed. It was apparent that his general condition was only fair and he had a grade one albumin-uria. In addition to this he had a senile psychosis of a moderate grade. He was not very irrational, but he was quite difficult to manage, in that he would refuse to take advice or follow instructions. He was quite affable and agreeable, however, and was perfectly willing to have his hip operated upon. On the eighth day after his injury he was operated upon. He was given the same anaesthetic as case one, but was operated upon on an ordinary operating table. The fracture was reduced in the usual way and the procedure done exactly as usual. Following the operation the patient left the table in excellent condition and did not have any shock nor was he distressed in any other way. He stated that he felt very comfortable the next day, and on the third day after the operation he got up and walked about the room without asking anyone permission to do so. He was severely reprimanded for this and advised to stay off his hip but he said he wanted to walk around on it, and every time he was not closely watched he did so. Check-up X-rays were taken at the end of a week, which did not show any change of position. Inasmuch as the patient absolutely refused to co-operate by staying in bed, and inasmuch as it was impossible to watch him closely enough to keep him in bed, he went ahead and walked on the hip from then on. He was given crutches and told to keep off the leg, and he followed this advice to a certain extent in that he used one crutch most of the time. Check-up X-rays at the end of three months showed a good deal of union, and two months later the hip appeared to be perfectly solid in the X-ray, and the X-ray showed many trabeculae of bone extending across the fracture site. The patient has complained of a small amount of stiffness and occasional aching pain in the hip, but walks practically without limp and painlessly. This case was presented particularly to illustrate the extreme stability of the fracture site after nailing with a Smith-Petersen nail. Although very early weight bearing is not to be advised or even condoned, this case demonstrates that it is possible to begin weight bearing immediately after the operation and still obtain excellent bony union in good position.

#### SUMMARY

The history of the treatment of fractures of the hip is briefly reviewed.

The operation of blind nailing with the Johanson type of Smith-Petersen nail is discussed and



the technique described in detail. Illustrative drawings are presented.

Two cases are presented showing some unusual features. One of these cases had a senile psychosis and could not be made to follow instructions. He walked on his hip the third day after the operation and continued walking on it from then on with no harmful effects.

Roberts-Banner Bldg.

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## Diagnosis and Treatment of the Pneumonias\*

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IN THE following discussion I shall try to avoid the terms, "lobar pneumonia" and "bronchopneumonia," preferring to use a classification based on etiology rather than distribution of the pathological lesions. Cecil is reported to have once said, "If I must have pneumonia, I am indifferent whether it shall be lobar or bronchopneumonia, nor am I particularly concerned whether I have two or three lobes involved, but I do care very much whether my infection is caused by Friedlander's bacillus or a Group IV pneumococcus." This statement reflects the trend of thought among students of pneumonia, and inasmuch as it is not uncommon for the pathologist to find pneumonia or pneumococcus origin with lobar consolidation on one side, and bronchial distribution on the other, the old terminology, I believe, should be discarded. Finland has recently suggested the terms *typical* and *atypical* pneumococcus pneumonia.

### DIAGNOSIS

Usually the diagnosis of typical pneumonia offers little difficulty. When one sees a patient who has had an acute upper respiratory infection for a week or two, suddenly prostrated, perhaps following extraordinary fatigue or exposure to cold, complaining of pain in the chest, fever, headache, and dry cough with some shortness of breath and perhaps vomiting, all following a chill, pneumonia is the first thought. If then this patient coughs up a little sticky blood-tinged or rusty sputum, the diagnosis can be made without physical examination or X-ray. Indeed, at this stage the physical findings may be no more than slight suppression of breath sounds and a few fine sticky rales on cough over one or another lobe of the lung. It may be twenty-four or even thirty-six hours later that signs of frank consolidation appear, giving dullness on percussion and tubular, or, if the bronchus is plugged, absent breath sounds. Until these signs of frank consolidation appear, the X-ray may be of little

value, though even in the very early hours suggestive changes may be found, and films should always be ordered as early as possible. One physical sign to which little attention has been given is spasm of the rectus muscle. This symptom is often present, especially in lower lobe pneumonias, before frank signs can be found in the chest. It is often very marked, as in a recent case on my service at the Los Angeles County Hospital. In this instance the right rectus was involved, the chest pain was in the lower back and shoulder. The patient was admitted during the night. An inexperienced interne called a surgical consultant, the patient was rushed to surgery and operated upon for empyema of the gall bladder, which, of course, was not found. In justice to the surgeon I will say that X-ray films were taken before the operation and reported negative. Twenty-four hours later new films showed a definite right lower lobe pneumonia. Fortunately the patient's infection was a type for which serum was available.

### PRIMARY PROCEDURES

The importance of early diagnosis is very much greater since specific serum has become available. Pneumonia is now recognized as a real emergency, to be classed with acute appendicitis and diabetic coma, for, as in these conditions, the outcome often depends upon the promptness with which proper treatment is instituted. The importance of hospitalization for a pneumonia patient can hardly be over-estimated, and should be carried out whenever possible. Upon admission to the hospital it is our custom to order the following laboratory work: sputum typing, complete blood count, blood culture, and X-ray of the chest. Orders for the general management include absolute bed rest, forced fluids (three to four thousand cc. each twenty-four hours), continuous oxygen by Lombard mask for the slightest cyanosis or a pulse rate over 120 and respirations more than 30 per minute; sodium chloride in enteric-coated tablets, thirty grains three times a day; a general diet of anything that

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\*Presented before Staff of St. Joseph's Hospital, Phoenix.

the patient will relish, especially salty foods; no enemas or cathartics.

By the time these measures are instituted, if we are fortunate, the laboratory has reported the type of pneumococcus, if this be the infecting organism. If there has been no sputum, as often happens, smears should be taken from the pharynx and larynx for direct examination and culture, and the patient should be asked to cough upon a Petri dish containing a suitable culture medium. If these measures fail and an area of definite consolidation can be demonstrated by physical signs, and X-ray, lung puncture should be done. For this a 4-inch, 22-gauge needle is used attached to a 10 c.c. syringe containing a small amount of blood broth. The skin is prepared over the area of consolidation and while the patient holds his breath, the needle is plunged full length into the lung and immediately withdrawn, constant suction being applied by the syringe. The few drops of lung juice mixed with broth is then cultured and will usually give the proper type. This procedure is not without danger and should not be attempted by the inexperienced.

#### SERUM ADMINISTRATION

Once the type of infecting organism is established, specific serum should be administered as early as possible. Few physicians today question the value of specific serum in pneumonia and it is now available for nearly all of the thirty-two known types. Nearly all of you, I am sure, are familiar with the technique of serum administration; however, I shall briefly review the important features. Whether the serum to be used is horse or rabbit, both ocular and intradermal tests for sensitivity should be made according to the instructions which come with each package. When it is established that no sensitivity is present, 2 c.c. of warm serum should be injected very slowly intravenously. At the end of two hours if no reaction has occurred, the remainder of this package of serum should be given. Two hours later 40 to 60 thousand units should be given and this repeated every two hours until the estimated dose has been administered. Next in importance to the early administration of serum is adequate dosage. How does one determine when sufficient serum has been administered in given cases? For example, a Type 1 pneumonia in which treatment was started on the second day will often show a dramatic drop in pulse, temperature and respiration after 40 or 60 thousand units of serum. Not long ago it was thought if such a patient's serum caused tight agglutination of Type 1 pneumococci in culture, that this was an indication that no more serum was needed. However, the agglutinins are not the only antibodies present in anti-pneumococcus serum. We know of at least two other protective substances, a mouse-protecting substance and a pneumococidal substance, which renders the pneumococcus susceptible to phagocytosis. If one depends entirely upon the presence of a sufficient amount of agglutinins he will occasionally find that he is

not giving a curative dose of serum and valuable time will have been lost. The Francis test is used in some hospitals to supplement the agglutination test. This is an intradermal infection of 2 c.c. of 1/1000 dilution of specific soluble substance. The appearance of a wheal in 20 minutes indicates presence of antibodies.

At the present time one of our senior students who has reviewed all the pneumonias treated with serum in the Los Angeles General Hospital is working out a formula by which it may be possible to determine in every case the adequate dose of serum when administered in a given time. I hope this study can soon be published. Until we have some such formula the safe procedure is to give more rather than less the estimated dose. Here it might be well to briefly mention those conditions which call for more than the average estimated dose. These are six in number. 1. Administration after the third day of onset. 2. Involvement of more than one lobe of the lung. 3. Positive blood culture. 4. Administration to patients over 55 years of age. 5. Pregnancy. 6. Infection with Types II and III.

Response to serum therapy when instituted early is usually dramatic. Should the temperature, pulse and respiration fail to drop to normal or near normal within 24 hours, the sputum should be re-typed. It will usually be discovered that the first typing was an error or that multiple infection with two or more types is present. This occurs in about 35% of cases.

One of the most difficult questions that arises in the serum treatment of pneumonia is whether or not to give serum to patients seen for the first time after the fifth day of onset. Many of these cases are seen in a large general hospital. Most of them are desperately ill and the majority will die regardless of any treatment. These cases, if given serum at all, should be given enormous doses, not less than 500,000 units, and this is very costly. However, such a patient can occasionally be saved by serum, I believe, and we have taken the attitude that the cost of serum is no greater than the cost to the county taxpayers of a burial and the support of whatever dependents the patient may have. Of course, serum should not be wasted on a patient obviously in extremis.

Before leaving the subject of serum therapy I wish to briefly review our experience with specific antipneumococcus serum on Ward 7600 at the Los Angeles General Hospital from August 1, 1938, to January 12, 1939. This ward is one of two wards in the hospital devoted to the treatment of pneumonia and other acute respiratory infections. Of late, since serum has been available for many of the higher types, it has not been unusual to have as many as twenty serum treated cases on the ward at one time.

The tables shown below are self-explanatory



## PNEUMOCOCCIC PNEUMONIAS

Aug., 1938, to Jan., 1939

94 pneumococcic pneumonias, 90 typed out as follows:

Type 1	21	Type 14	2
Type 2	5	Type 17	2
Type 3	8	Type 18	3
Type 4	6	Type 19	1
Type 5	4	Type 20	1
Type 6	2	Type 22	2
Type 7	16	Type 24	2
Type 8	7	Type 25	2
Type 9	3	Type 29	2
Type 12	3		

## 76 SERUM TREATED CASES

Treatment Begun	Deaths	Mortality
1st day	3	0
2nd day	13	0
3rd day	12	1
4th day	7	1
5th day	10	1
Total	45	6.6%
6th day	1	
7th day	1	
8th day	1	
9th day	2	
12th day	1	
15th day	1	
Total	31	22.5%

18 cases no serum, 6 deaths, 33%.

## CHEMOTHERAPY

Since the discovery of sulphanilamide it has been used as a specific in pneumonia caused by the streptococcus beta. I am not acquainted with any large series of cases adequately controlled which demonstrates its value, but judging from those cases I have seen it is certainly worthy of a trial. Any discussion of the specific treatment of pneumonia would be incomplete without mentioning sulphanilamide, MB 693, or Dagenan, as it will be known in trade. I have used Dagenan in one case of atypical pneumonia in a woman 75 years of age, due to pneumococcus Type VI, in one Type VIII, and in one Type XIX, in one Type III too late for serum, and in two other cases of undetermined type. These cases, some of which were desperately ill, are all convalescing. A personal communication from Bullowa states that he has been using Dagenan, alternating with serum cases for control, in some types. He believes that an opinion as to its value at this time would be entirely premature. He has seen severe anaemia, neutropenia and one case of severe hemolytic icterus with hepatitis caused by the drug.

Theoretically the ideal treatment for pneumonia would be a combination of serum and a bacteriostatic drug such as Dagenan is said to be.

Pneumonias due to staphylococcus and Friedlander's bacillus have not in our experience responded to sulphanilamide. I have seen one case of staphylococcus pneumonia, which as you know has an extremely high mortality, recover, following the use of a large amount of polyvalent staphylococcus antitoxin. This patient's improvement seemed to begin at the time the antitoxin was started.

## SYMPTOMATIC TREATMENT

Occasionally in the treatment of pneumonia, both typical and atypical, situations arise which demand special consideration. Pain and cough often interfere with rest. These two symptoms are usually the

only ones which require attention in the early days of the attack. Partial strapping of the chest, together with heat or counter irritation, will often give relief. However, the strapping should not be so extensive as to cause atelectasis and spread of the pneumonic process. Codeine in doses of  $\frac{1}{4}$  to  $\frac{1}{2}$  grain by hypodermic will usually be sufficient to control the cough, which is more troublesome in the atypical pneumonias. Morphine should be avoided because of its depressing effect on respiration.

Hyperpyrexia can be treated by tepid sponging or the alcohol fan. Salicylates and other antipyretics as a rule should be avoided except in cases where a very high temperature exists at the time serum is to be administered. Here it may prevent a fatal hyperpyrexia should a thermal reaction follow the use of serum.

For restlessness and insomnia the barbitals will usually suffice. It is essential that the patient secure six to eight hours sleep and it may be necessary to resort to chloral or to paraldehyde which can be administered intravenously. Occasionally a patient will become wildly delirious. Such a patient, instead of being strapped in bed and allowed to exhaust himself, should be given one-half anesthetic dose of avertin by rectum; again, morphine should not be used.

Abdominal distension can be a very distressing symptom. It is an indication of severe toxemia and should cause the greatest concern to the attending physician. In my experience this complication has been much less frequent since the routine use of large amounts of sodium chloride and forced fluids. Enemas and cathartics seldom give even temporary relief and are to be avoided because of the fatigue which they cause the patient. The use of prostigmine, 1 c.c. of 1:2000 solution every two to four hours subcutaneously, followed by the insertion of the rectal tube will sometimes give relief.

## SHOCK IN PNEUMONIA

When, in spite of all our efforts, a pneumonia patient goes from bad to worse, the blood pressure drops, the pulse becomes more rapid and perhaps irregular, the abdomen more distended, the skin pale and moist, what has happened, and what can be done about it? Pneumonia patients die, either of sepsis with its later complications such as empyema, pericarditis and meningitis, or they die of medical shock.

The state of shock has been defined as the physiological result of an acute disparity between the circulating blood and the functioning capacity of the vascular bed. Probably the first description of medical shock is contained in a letter to the London Medical Gazette in the year 1831, written by W. B. O'Shaughnessy of New-Castle-upon-Tyne, entitled, "Experimental Inquiries into the Cholera." By his observations O'Shaughnessy demonstrated in cholera patients, dehydration, salt depletion, acidosis and urea retention. As a substitute for the brandy and laudinum treatment then in vogue, he

*Forty-Eighth*

**Annual  
Meeting**

**ARIZONA STATE  
MEDICAL  
ASSOCIATION**



*Phoenix, Arizona*

*April 13, 14, 15, 1939*

PLEASE REGISTER ON ARRIVAL



## PROGRAM

Thursday Forenoon, April 13

9:30 A. M.

### Opening Exercises

Call to Order.

HAL W. RICE, M. D., President

Invocation.

REV. EMMETT McLOUGHLIN, O. F. M., Phoenix.

Address of Welcome.

GOVERNOR R. T. JONES

Response.

R. D. KENNEDY, M. D., Pres., Gila County Med. Soc.

Induction of President-Elect.

HAL W. RICE, M. D., Bisbee.

President's Address.

CHARLES S. SMITH, M. D., Nogales.

### SCIENTIFIC

10:30 A. M.

"Artificial Pneumothorax: 1. Its Application to the Ambulatory Patient. 2. The Establishment of Artificial Pneumothorax Refill Clinics."

DERMONT W. MELICK, M. D., Williams, Ariz.

Discussion.

"Extrapleural Pneumothorax in the Treatment of Phthisis."

JOHN C. JONES, M. D., Los Angeles, Calif.

Discussion.

"The Medical Control of Silicosis."

FRANK T. HOGELAND, M. D., Sonora, Mex.

Discussion.

### Memorial Services

10 Minutes

"Crossing the Bar" ..... Selected

Remarks ..... D. F. Harbridge, M. D.

"Ave Maria" ..... Schubert

Prayer ..... The Very Reverend Dean Edwin S. Lane

"Largo" ..... Handel

Musical Selections above by:

Piano ..... Cora Lee Machell

Cello ..... Montague Machell

### GUEST SPEAKERS

E. H. CARY, M. D. .... Dallas, Texas

Past President, American Medical Association;  
Chairman, Legislative Activities of the American  
Medical Association; Member, Special Committee  
of Seven on Federal Medical Care Program.

JOHN C. JONES, M. D. .... Los Angeles, Calif.

American Association Thoracic Surgery.

FREDERICK KELLOGG, M. D. .... Long Beach, Calif.

Instructor in Medicine, University of Southern  
California School of Medicine, Los Angeles, Calif.

NORMAN F. MILLER, M. D. .... Ann Arbor, Mich.

Professor, Obstetrics and Gynecology, University  
of Michigan Medical School.

LEWIS F. MORRISON, M. D. .... San Francisco, Calif.

Assistant Clinical Professor, Otology, Rhinology  
and Laryngology, University of California Medical  
School.

ALTON OCHSNER, M. D. .... New Orleans, La.

Professor of Surgery, Tulane University of Louisi-  
ana School of Medicine.

WEBB WEEKS, M. D. .... New York, N. Y.

American Ophthalmological Society; Professor of  
Ophthalmology, New York University College of  
Medicine.

## PROGRAM

### ROUND TABLE LUNCHEON

12:30 P. M.

"Thrombophlebitis."

ALTON OCHSNER, M. D., New Orleans, La.

"Common Lesions of the Cervix and Their Treatment."

NORMAN F. MILLER, M. D., Ann Arbor, Mich.

"Mediastinal Tumors."

JOHN C. JONES, M. D., Los Angeles, Calif.

### THURSDAY AFTERNOON

2:00 P. M.

"Diabetes Mellitus and Observations with Protamine Zinc Insulin."

LESLIE B. SMITH, M. D., Phoenix, Ariz.

Discussion.

"Uterine Displacements and Their Management."

NORMAN F. MILLER, M. D., Ann Arbor, Mich.

Discussion.

"Undulant Fever and Its Treatment with Sulfanilamide."

LYLE A. CONDELL, M. D., Safford, Ariz.

Discussion.

### Intermission—20 Minutes

"Preoperative and Postoperative Treatment."

ALTON OCHSNER, M. D., New Orleans, La.

Discussion.

"Low Back Pain with Sciatic Radiation."

ROBERT E. HASTINGS, M. D., Tucson, Ariz.

Discussion.

### THURSDAY EVENING

7:00 P. M.

Stag Dinner ..... Adams Hotel

9:15 P. M.

Radio Broadcast, Station KOY—"Public Aspects of Medical Care."

E. H. CARY, M. D., Dallas, Texas.

### FRIDAY, APRIL 14

7:30 to 8:30 A. M.

Breakfast for Special Groups, with Clinical Demonstrations.\*

8:30 A. M.

Business Session ..... House of Delegates

\*NOTE—Breakfasts, accompanied by clinical demonstrations, will be held Friday and Saturday mornings at the hours designated on the program. Announcements will be made as to places, groups, etc. Each doctor will pay for his own breakfast, as this is not included in the registration fee.

## PROGRAM

### SCIENTIFIC

9:30 A. M.

"Enuresis."

JOHN W. PENNINGTON, M. D., Phoenix, Ariz.

Discussion.

"Eye Diseases in Their Relation to General Medicine."

WEBB WEEKS, M. D., New York, N. Y.

Discussion.

"Metabolism in Pregnancy."

HOWARD C. JAMES, M. D., Tucson, Ariz.

Discussion.

"Impaired Nasal Ventilation in the Adult."

LEWIS MORRISON, M. D., San Francisco, Calif.

Discussion.

### ROUND TABLE LUNCHEON

12:30 P. M.

"Recent Advances in Syncope or Medical Shock."

FREDERICK KELLOGG, M. D., Long Beach, Calif.

"Treatment of Dysmenorrhea."

NORMAN F. MILLER, M. D., Ann Arbor, Mich.

"Ophthalmology" (Topic to Be Announced).

WEBB WEEKS, M. D., New York, N. Y.

"Otolaryngology (Topic to Be Announced).

LEWIS MORRISON, M. D., San Francisco, Calif.

### FRIDAY AFTERNOON

2:00 P. M.

Business Session ..... House of Delegates

### Intermission—20 Minutes

3:20 P. M.

Open Session ..... House of Delegates

Address—"Federal Trends in Medical Care and Health Legislation."

E. H. CARY, M. D., Dallas, Texas.

### FRIDAY EVENING

7:00 P. M.

Banquet and Dance ..... Westward Ho Hotel



## PROGRAM

**SATURDAY, APRIL 15**

**7:30 to 8:30 A. M.**

Breakfast for Special Groups, with Clinical Demonstrations.\*

### SCIENTIFIC

**10:00 A. M.**

"Differentiation of Parietal and Intra-Abdominal Pain."  
ZENAS B. NOON, M. D., Nogales, Ariz.

Discussion.

"Recent Advances in the Treatment of Pneumonia with Reference to a Series Studied at the Los Angeles General Hospital."

FREDERICK KELLOGG, M. D., Long Beach, Calif.

Discussion.

"Diagnostic Value of and Indications for Gastroscopy,"  
JOSEPH BANK, M. D., Phoenix, Ariz.

Discussion.

"Prolonged Labor."

NORMAN F. MILLER, M. D., Ann Arbor, Mich.

Discussion.

**2:00 P. M.**

Business Session ..... House of Delegates

### Election of Officers

\*NOTE—Breakfasts, accompanied by clinical demonstrations, will be held Friday and Saturday mornings at the hours designated on the program. Announcements will be made as to places, groups, etc. Each doctor will pay for his own breakfast, as this is not included in the registration fee.

## AUXILIARY PROGRAM

**Thursday, April 13**

Registration—Westward Ho Hotel

**10:00 A. M.—General Session**

Invocation.

THE REV. FATHER ROBERT BURNS, S. J. .... Phoenix

Address of Welcome.

MRS. O. W. THOENY, President, Maricopa County  
Medical Auxiliary ..... Phoenix

Response.

MRS. C. E. PATTERSON ..... Tucson

Business Session.

MRS. G. C. TRUMAN, President, State Medical  
Auxiliary, presiding ..... Mesa

Roll Call.

Reading of Minutes.

Correspondence.

Reports of State Officers and Committees.

Corresponding Secretary .... Mrs. H. S. Denninger, Glendale

Treasurer ..... Mrs. H. T. Southworth, Prescott

First Vice-President and Organization Chairman .....

..... Mrs. J. D. Hamer, Phoenix

Second Vice-President and Program Chairman .....

..... Mrs. R. Rudolph, Tucson

Exhibits ..... Mrs. Clyde Flood, Tucson

Hygeia ..... Mrs. M. L. Kent, Mesa

Legislative ..... Mrs. J. W. Pennington, Phoenix

Public Relations ..... Mrs. J. M. Greer, Phoenix

Parliamentarian ..... Mrs. Floyd Sharp, Phoenix

Publicity ..... Mrs. Norman Ross, Phoenix

Historian ..... Mrs. Geo. Irvine, Tempe

Reports of County President.

Maricopa ..... Mrs. O. W. Thoeny

Pima ..... Mrs. Charles Barley

Yavapai ..... Mrs. James Allen

Report of Registration and Credentials Committee.

MRS. PRESTON BROWN ..... Phoenix

Report of Transportation Committee.

MRS. FLOYD SHARP ..... Phoenix

Report of Entertainment Committee.

MRS. C. C. CRAIG ..... Phoenix

Election of Officers.

Address—"Role of Auxiliary in Maternal and Child Health Program."

JACK B. EASON, M. D., Director Maternal and Child Health,  
Public Health Department for Arizona.

**3:00 P. M.**

Trip to the Convent of the Good Shepherd.

**7:00 P. M.**

Buffet Supper—Arizona Club.

Hostesses—Mrs. Charles Sult, Mrs. Ralph Palmer, Mrs.  
M. W. Merrill, Mrs. Kent Thayer.

**8:00 P. M.**

Bridge-Chinese Checkers—Arizona Club.

**Friday, April 14**

**10:30 A. M.**

General Session.

MRS. G. C. TRUMAN ..... President, presiding

Greetings.

MRS. J. M. GREER ..... Phoenix

Business Meeting.

Installation of Officers.

**11:30 A. M.**

Address—Guest Speaker.

DR. NORMAN F. MILLER, Professor of Gynecology and  
Obstetrics, University of Michigan, Ann Arbor.

**1:00 P. M.**

Luncheon—Wigwam.

Hostesses—Mrs. A. E. Cruthirds, Mrs. H. D. Ketcherside,  
Mrs. Thomas Woodman.

**7:00 P. M.**

Banquet and Dance—Westward Ho Hotel.

## SPECIAL PROGRAM

### EYE, EAR, NOSE AND THROAT

#### Thursday Afternoon

##### "Retrolbulbar Neuritis."

LEWIS MORRISON, M. D., San Francisco, Calif.

#### Friday Morning

##### Breakfast.

In compliment to DRS. MORRISON and WEEKS.

#### Friday Noon

##### Round Table Luncheon.

DRS. MORRISON and WEEKS, Speakers.

#### Friday Afternoon

##### "Surgical Failures in Glaucoma."

WEBB WEEKS, M. D., New York, N. Y.

##### "Sulfanilamide Therapy in Mastoditis."

LEWIS MORRISON, M. D., San Francisco, Calif.

NOTE—The above papers will be read before the Special Group only. See Page 10 for papers on General Program.

## ENTERTAINMENT FEATURES

### Thursday, 7:00 P. M.—Adams Hotel

SMOKER and BUFFET DINNER

### Friday, 7:00 P. M.—Westward Ho Hotel

BANQUET and DANCE

#### Saturday Afternoon

##### GOLF TOURNAMENT

(Closing Scores)

The Phoenix Country Club greens will be the scene of the 18-hole Medal Tournament during the three days of the Annual Meeting. A handsome trophy will be awarded. Further announcement of details will be made during the meeting. Please inform the undersigned if you will enter.

DUKE R. GASKINS, M. D.,  
922 Professional Bldg.,  
Phoenix.

## SCIENTIFIC EXHIBITS

Cancer Exhibit—Wax Models and First Showing of Placards from the American Society for the Control of Cancer.

DR. E. PAYNE PALMER, JR.

Common Duct Visualization.

DRS. W. O. SWEEK and H. G. WILLIAMS.

Epiphyseal Separation of the Femur.

DR. JAMES LYTTON-SMITH.

Film Showings—Syphilis, Tuberculosis.

MR. FRANK WILLIAMS, Arizona State Department of Health.

Fracture Exhibit.

DR. E. PAYNE PALMER, SR.

Gastritis: Classification, Symptoms, Diagnosis, Treatment.

DR. JOSEPH BANK.

Technique of Extrapleural Pneumothorax.

DR. JOHN C. JONES, Los Angeles.

Traumatic Myocarditis.

DR. LESLIE B. SMITH.

## X-RAY EXHIBITS

Interesting and Unusual Conditions.

(See special descriptive folder)

Pathological Laboratory.

## COMMERCIAL EXHIBITS

A. S. Aloe Co.  
American Optical Co.  
Arizona Brace Shop.  
Ciba Co.  
Cutter Laboratories.  
General Electric X-Ray Corp.  
Lederle Laboratories.  
Mead Johnson & Co.  
Philip Morris & Co.  
Petrolagar Laboratories.  
Pet Sales Corp.  
Sonotone.  
Southwestern Surgical Supply Co.  
E. R. Squibb & Sons.  
Westinghouse.  
John Wyeth & Bro.



### LET'S GO !

According to custom in Arizona, the week-end following Easter Sunday will witness the Annual Conclave of Medicos. This forty-eighth meeting of the Arizona State Medical Association will be held in Phoenix on April 13, 14, 15.

The backbone of organized medicine is found in the medical meetings—local, county, state, national. Here those things that relate to and affect all of us are considered, accepted, rejected, and it seems that matters of increasing interest—scientific, economic, medico-political—are constantly projecting themselves for our study.

Interest in, as well as success of, our meeting is best shown by attendance. **Especially important it is that all delegates be present.**

Maricopa County invites us. LET'S GO !!

HAL W. RICE,  
President.

### THE SCIENTIFIC PROGRAM

In arranging the 1939 scientific program, the committee's foremost thought and desire was to give the membership a group of papers of unsurpassed quality. This, we believe, has been accomplished. The local papers are largely by "new-comers" to the program, the committee feeling the members who have richly contributed to past programs merited a temporary rest. The guest speakers are physicians and surgeons of outstanding ability who will travel hundreds of miles at their own expense in order to address this Association.

This year there will be special meetings, breakfasts, etc., for the members of the American College of Physicians and its specialties; the American College of Surgeons and special groups; Eye, Ear, Nose and Throat Physicians, etc. All details of these events could not be listed on the printed program, but announcements will give the additional information needed.

For all these reasons the Committee on Scientific Program invites and urges your attendance at the Forty-Eighth Annual Meeting of this Association.

CHAS. S. SMITH, M. D.,  
Chairman.  
W. PAUL HOLBROOK,  
FRANK J. MILLOY,  
C. C. PIEPERGERDES, M. D.,  
Members.

advocated the injection into the veins of tepid water holding a solution of normal salts of the blood. Unfortunately this rational treatment did not come into general use until 1909, when Rogers, Nichols and Andrew used it very successfully in a cholera epidemic in the Philippines. Janeway was the first in this country to recognize the futility of heart stimulants in acute infectious diseases. In 1907 he wrote in the *New York State Medical Journal*: "We must in most cases abandon the idea of cardiac death at the height of acute infectious disease such as pneumonia, typhoid fever and septic fever. In place of heart failure, we must write vasomotor failure."

In pneumonia the state of shock is brought about by damage to the capillaries, both peripheral and visceral, as a result of the combined effect of anoxemia, deficiency of the suprarenal cortex, and the direct action on the capillary walls of the toxin produced by the infecting organism, in the case of the pneumococcus, the so-called specific soluble substance. Just which of these factors plays the greatest part is not known, but it probably is the bacterial toxin. Atchley reports the case of a laboratory investigator who gave himself a large dose of pneumococcus vaccine intravenously. He immediately developed alarming symptoms of shock. The systolic blood pressure dropped to 60 mm. and remained below normal for three days; also numerous petechial hemorrhages appeared in the skin.

Perry has made an interesting observation on the effect of clinical pneumococcus pneumonia on capillary tone. A drop of adrenalin (1:1000) was placed on the skin of the forearm and a needle prick made through the drop, causing a small area of blanching. The cuff of a sphygmomanometer was then applied above the elbow and the venous pressure in the forearm raised until the blanched area disappeared. In 26 pneumonia patients the pressure required ranged from 20 to 70 mm., as against 80 to 100 mm. in normal controls. It was also noted that, as a rule, those individuals in which lower pressures (20 to 40) were required, all died, while those in which pressures of 40 to 70 mm. were required, generally recovered. However, in the cases which recovered, it required an average of fourteen days for the capillary tone to return to normal.

In medical shock the capillaries not only lose their tone but their walls become so permeable that blood plasma is lost into the tissues, and thus we have at the same time an increase in the vascular bed and a decrease in the circulating medium.

"Pulmonary oedema" is a term commonly used to describe the wet lung which occurs a few hours before death in fatal pneumonia, or, rarely, at the critical stage of a case which recovers. This condition is characterized by coarse rales over those portions of the lung not involved in the pneumonic process, and an increase in dyspnoea and cyanosis. Such a lung at autopsy has exactly the same appearance as the lung of a patient dying in shock

from an extensive burn or other cause. This wet lung in pneumonia should not be confused with the acute pulmonary oedema occurring in hypertensive heart disease and often successfully treated by morphine and phlebotomy. The wet lung in pneumonia is simply a manifestation of the general capillary failure which is present in all the organs and tissues of the body. Other signs of medical shock seen in fatal pneumonia are dusky pallor, sweating, rising pulse rate with a galling systolic, blood pressure, diminished output of urine, and an increase in the hemoglobin and erythrocytes.

What of the treatment of vascular failure in pneumonia? If digitalis and other cardiac stimulants are useless, what, then, can be done? As in most medical emergencies, the best treatment is prevention. Experience has shown that forced fluids, adequate amounts of sodium chloride, the generous use of oxygen, and the early use of specific serum will save approximately one-half of the cases that were lost before these measures came into general use.

Once the signs of shock have appeared, little can be done to save a patient. Hypertonic solutions of sucrose and sodium chloride intravenously and caffeine in large doses may, rarely, save a life.

The value of vaso-constricting drugs is doubtful, though they definitely raise the systolic blood pressure for a time in some instances. Atchley states that the use of adrenalin and drugs having a similar action is not helpful, and, in fact, may be harmful as the vessels which they affect are already constricted to the disadvantage of the capillary circulation. This has been shown experimentally to be the case in respect to the capillaries of both the skin and viscera. In this way blood volume is decreased and shock is exaggerated.

In conclusion, I wish to repeat that the early deaths in pneumonia are due to medical shock, that heart stimulants, particularly digitalis, are not only useless, but probably harmful except in such cases as give definite indications of congestive failure. Even auricular fibrillation, when this arrhythmia is the result of toxemia, is not an indication for digitalis therapy, though quinidine may prove useful. The value of vaso-constricting drugs in medical shock is at least doubtful and our chief dependence must be placed on measures which prevent fluids from passing from the blood vessels into the tissues.

---

1136 W. 6th St.

#### "DEPRESSION OR NO DEPRESSION"

Since 1930, month after month, a unique series of educational-to-the public advertisements have appeared on the first page of *Hygeia*. The sponsor's name, Mead Johnson & Company, has to be looked for with a magnifying glass, and appears only for copyright purposes. Not a product is ballyhooed. Instead, appears good, clean, convincing reasons, with choice illustrations, why mothers should seek pediatric advice from their physician.



## Hormones in Pregnancy

ANGUS J. DE PINTO, M. D.

Phoenix, Arizona

**D**EVELOPMENTS in the hormone field have been so enormously rapid in the past twelve years that to evaluate the present status of the hormones in their control and regulation of pregnancy is not only difficult but discouragingly confusing and perhaps impossible. Hundreds of articles have appeared in the last three years on the subject. They have illuminated many dark and uncertain phases of reproduction and gonad activity, but even in the best and most reliable journals the wheat and chaff have not been separated. These innumerable reports are confusing even to the expert engaged in full-time research in endocrinology, so that we who are on the "side lines" are fairly bogged and overcome in confusion. The average practitioner frequently turns to the advertising literature and to the "detail man" for information, and he is much impressed by the information which is given as positive and clear cut. However, in most instances these advertising circulars are erroneous, and if not distinctly erroneous they are entirely too optimistic in their claims for what their hormone product will do.

In addition to these advertisements from the so-called ethical houses, the clearly unethical and quack business concerns find ready and listening ears among the doctors. All sorts of quack journals find their way to the doctor's desk. These scientifically worded advertisements are forced upon the confused and unsuspecting doctor who does not have time to critically evaluate the nature of the preparations expounded.

Before we can be in any degree capable of administering to patients extracts of endocrine glands or the actual chemical hormones themselves, we must know something about their nature and their actions in the normal human being. We must know when they are present normally and when not, and something about how they act and what symptoms are likely to be caused by their absence, by their superabundance, or by a moderate insufficiency. Thus, to properly use insulin the normal action of the pancreas must be understood. Only then can the pathological state of the diabetic be understood and remedied. The same is true of thyroid substance or Thyroxin in Myxedema, and likewise for parathormone in hypo-parathyroidism and of supra-renal extract in Addison's disease.

### HORMONES CONCERNED IN PREGNANCY

In obstetrics we are concerned primarily with the glands controlling the menstrual cycle. The hormones active in pregnancy are apparently the same as those occurring in the normal non-pregnant female except that they occur in different concentrations and in different states of balance.

The hormones I refer to are 6 in number, 2 ovarian, 2 pituitary and 2 more like those from the

pituitary, but due to the fact that they are not exactly like the pituitary hormones, are spoken of as "anterior-pituitary-like" gonadotropic hormones. These last two are formed mainly in the placenta and are, therefore, typical of the pregnant state. The two ovarian hormones have finally come to be called estrin and progestin. Progestin is also known in more correct chemical terminology as progesterone. Estrin still goes under the various names of folliculin, follicle hormone, menformone, progynon, theelin, etc. Estrin is really not a female sex-hormone as it has been found in the testis, male urine, the placenta, corpus luteum and even in plants. The pituitary hormones are known as Prolan A, or follicle ripening hormone and Prolan B, or luteinizing hormone. Prolan A is active in the first half of the menstrual cycle and causes a growth of the primordial graffian follicle. As the follicle ripens it produces estrin in increasing amount which serves to depress the Prolan A activity of the pituitary. This allows Prolan B. to become active which luteinizes the follicle causing an increase in progestin. Under the direct influence of estrin and progestin the endometrium undergoes development. There is a hyperplasia of the endometrium, with marked increase in thickness, in vascularity and an actual hypertrophy and hyperplasia of the endometrial glands themselves. In the middle and latter half of the cycle as progestin becomes dominant certain premenstrual changes occur in the hyperplastic glands. These take on a definite secretory appearance, marked microscopically by columnar epithelium with basilar nuclei, vacuolization of the cells, distention of the lumina by secretion and a distinct "fuzziness" of the inner gland borders. These are all progestational changes. A normal type of premenstrual endometrium obtained by biopsy indicates a normal ovarian cycle, correct balance between estrin and progestin and a correct relationship between pituitary and ovary. Recently various writers have been able to say whether or not ovulation has occurred by studying the premenstrual endometrium.

If pregnancy occurs, and presumably this can occur only within the inter-menstrual time, the corpus luteum goes on to further development until about the third month when it regresses and the placenta then assumes the burden of progestin production.

The work of Ehrhart and Fisher is of prime importance<sup>1</sup>. They determined the content of progestin in placentas taken from different months of gestation and found those up to about the fourth month contained practically none; those between the sixth and eighth months contained the most, and that placentas from term pregnancies contained very little. This work points to an explanation of why most spontaneous abortions occur between the second and fourth months of

pregnancy, for that is the time when the corpus luteum is degenerating and the placenta beginning to assume its function. All experimental evidence shows that it is progesterin that is directly responsible for the growth of the uterus especially in early pregnancy; that it is the direct cause of inhibition of uterine activity and motility and that it causes endometrial proliferation<sup>2</sup>. It directly inhibits uterine contractions induced by estrin<sup>3</sup>. Experimentally, when progesterin has been injected pituitrin exerts no effect on the uterus.<sup>3</sup> This was determined by inserting a rubber balloon into the uterine cavity and recording the contractions on a revolving drum. Progesterin will relieve postpartum pains in all cases within fifteen to thirty minutes after its injection<sup>4</sup>.

Estrin in many ways is a direct antagonist of progesterin and vice-versa. Estrin increases the irritability of the uterus and imparts rhythmic contractility to the uterus<sup>5</sup>. In vivo, uterine strips do not show any co-ordinated contractions when estrin is absent. In the living animal rhythmic contractions of the uterus occur when estrin is injected and these gradually die off as the estrin is excreted. Many workers have shown that there is a gradually increasing production and excretion of estrin in pregnancy as term is approached, reaching its highest level at the time of onset of labor<sup>11 19 20</sup>. In animals estrin produces proliferation of the milk duct system while progesterin develops the alveoli of the breasts.

The understanding of the relationship between estrin and progesterin has led to the most remarkable and efficient therapeutic aid in Obstetrics of all time. Commercially prepared extracts of corpus luteum, placenta or pregnancy urine containing high concentrations of progesterin are being used very successfully to help habitually aborting women to carry their pregnancies. They are also being used to prevent miscarriages and premature deliveries. Failures occur, of course, but with energetic and early treatment any obstetrician will find that he can cut down his incidence of abortion and premature labor by about half. Falls<sup>3</sup> and his associates report excellent results in habitual aborters by using various corpus luteum extracts. He concludes that:

1. The cause of large numbers of spontaneous abortions is a deficiency of corpus luteum hormone (progesterin).
2. Substitutional therapy is valuable.
3. Prophylactic therapy with progesterin should be instituted in patients who have an aborting history before signs of threatened abortion appear.
4. Patients with threatened abortion should be treated with progesterin until the death of the foetus has been definitely established.

#### AUTHOR'S EXPERIENCES

In my own work I have been using lipolutin wherever progesterin therapy is indicated. I believe most of the failures I observed in its use are due to insufficient amounts. Necessarily we cannot use unlimited quantities because of its cost. In patients

with histories of habitual abortion 1 c.c. weekly is given, in threatened abortion, 1 c.c. daily or every other day and the same threatened premature labor. In all, some fifteen patients were treated in the past year. Some specific case reports are of interest.

A young woman pregnant for the first time started to abort in the second month of gestation and was treated prophylactically with 1 c.c. weekly between the second and fourth months. She carried the pregnancy to term, in fact to three weeks over term.

In another instance, the patient in question had delivered her first child at 7 months. The second pregnancy started to abort at 2½ months, again at 3½ months and again two weeks later, each time accompanied by cramps and bleeding. She was treated vigorously each time with lipolutin, morphine and bed rest. She and I were both getting "fed up" and decided that next time we would do nothing and that we would let her abort. Nothing happened until the seventh month when definite contractions started and were coming every five minutes when I saw her at home. With intravenous morphine and lipolutin the labor was stopped. She carried the pregnancy to 8½ months when the membranes ruptured and she delivered after a three to four hour labor a living, viable, well-developed baby, weighing 6 lbs., 4 oz.

Another case is of interest. This patient was a habitual aborter and was treated prophylactically with lipolutin. She delivered at term; however, the baby had an atresia of the descending colon. It was operated on the 2nd day of life but nothing could be done, and it expired on the next day. Was this case one which would have aborted earlier if the mother had been left alone? In this connection, Allen and Reynolds say that in abortions many times the termination of the pregnancy is due to an abnormality of the foetus<sup>2</sup>. Also Kane reports a higher than normal incidence of foetal malformations in those cases which were saved from aborting<sup>21</sup>. He seems to think there was some abnormality of the germ plasma in the fertilized ovum. However, could not the estrin and progesterin of the mother be the prime factor in improperly conditioning the development of the foetus since they have so much to do with determining the development of the maternal breasts and uterus? This conditioning factor could be at fault and be the cause of faulty development.

#### USES OF ESTRIN

Due to the very evident antagonistic actions of estrin and progesterin on the motility of the uterus many writers have elaborated a very plausible theory explaining the onset of labor both at term and prematurely<sup>19</sup>. It has been shown, as previously mentioned, that the highest concentration of estrin in both blood and urine occurs at term while at that time there is very little progesterin present. It is easy to see, therefore, why the uterus should go into action at a time when estrin concentration has reached a certain high level. Also, if we con-



sider that in rabbits gestation has been carried to many weeks past the normal time by the daily injection of progestin, we can see why the uterus goes into rhythmic action in its absence. Along the same lines Jeffcoate finds that abortion in humans is preceded by an abnormal rise in the blood and urine levels of estrin<sup>20</sup>. Reynolds has induced premature labor in rabbits by the injection of estrin. He states that estrin increases the intra-uterine tension and imparts rhythmic contractility to the uterus. Because of these and other clinical and experimental facts we are almost forced to the conclusion that the uterus is directly under the control of estrin and progestin, and that when estrin gains the upper hand the uterus empties itself. Of course, that is not the entire story. We do know that the gradual distention of the uterus is another factor enhancing the uterine irritability. This possibly explains why the incidence of twins aborting is about twice as great as would be expected in single pregnancy, and also why twins are apt to be born prematurely if carried to near term. In summary, we must regard the onset of labor as a gradual accelerating convergence of a number of influences, hormonal, physical and nutritional which must in the normal course of events result in the evacuation of the uterus.

It might be asked if estrin has been used clinically to induce labor in humans. Witherspoon failed to induce labor by this means<sup>25</sup>; however he used only 150 rat units, whereas the actual excretion of the hormone at term is 100 to 1000 times that amount. I found no other papers on the subject. I have tried small doses at term with indifferent results but have not as yet used it extensively.

#### ENDOCRINE BASIS OF TOXEMIA

I have discussed the endocrine basis of toxemia in a previous paper. Various workers have shown excesses of estrogenic hormone and of gonadotropic substances in toxemia. One man gets marked improvement by treating toxemic patients with progesterone. Shute and others find marked improvement in toxemias by giving large doses of Vitamin E<sup>22</sup>. He says the wheat germ oil neutralizes the excess estrin. These and other observations point significantly to a primary endocrine factor underlying the profound physical and physiological changes occurring in patients with toxemia.

In the puerperium the endocrine basis for the onset of lactation is interesting. During the first three days post partum estrin and progestin both disappear from the blood and urine, due to the loss of the placenta. This presumably removes the inhibition of the pituitary thus releasing prolactin which stimulates milk formation. Prolactin is now available for use in stimulating lactation in puerperal women. However, it is too expensive and as yet not very reliable. Ross found that 400 units given on the 6th post partum day in women lactating poorly gave no appreciable increase, 1000 units, however, produced an increase of 100 c.c. or more daily<sup>18</sup>. Incidentally, estrin can be used in cases where the breasts are to be dried up as the-

oretically it depresses the activity of the pituitary, thus releasing less prolactin.

#### THERAPY OF PERNICIOUS VOMITING

The subject would not be complete without mention of hormonal therapy of pernicious vomiting. Sussman observed good results with daily injections of calcium and parathyroid<sup>13</sup>. One group of patients given calcium alone averaged 30.5 days of vomiting. Another given calcium and parathyroid averaged 11.2 days. In my experience parathyroid therapy has been discouraging.

Freeman and Melick treated 78 patients with suprarenal cortex intramuscularly<sup>14</sup>. They reported unusually good results.

1. In 47 mild cases, treated orally only 2 or 4.3% were failures. In the others, symptoms disappeared in one to two weeks.

2. Fifteen moderate cases treated hypodermically were all relieved in three to five days.

3. Fifteen severe cases showing ketosis and who vomited everything ingested all were cured in three to five days.

They concluded that suprarenal cortex was an efficacious and important therapeutic weapon and that it is a more reliable and less costly an agent than any previously used. I may add that my own results, while not as good as theirs, have also been encouraging. As you have noticed, I have said nothing about etiology or causation of vomiting of pregnancy, and have still less to say about the actions of the various hormones used in its treatment.

#### THYROID IN PREGNANCY

Many papers have appeared advocating the use of thyroid in pregnancy<sup>17</sup>. Many obstetricians run routine determinations of the basal-metabolic rate and find most of their patients to be hypothyroid. If that is so, might it not be that pregnancy normally depresses the metabolic rate and does not increase it as we were previously taught. And is it not possible that this is Nature's way of making the mother less active in the interest of the foetus? On the other hand, many writers claim a much higher incidence of spontaneous abortion in hypothyroid women. This is still to be thoroughly proven, however. For the present I believe it advisable to prescribe thyroid only for those with very low rates or those with moderately low rates and excessive obesity or weight gain. I would urge caution, however, in giving much thyroid to those with only slightly reduced rates, for we may be interfering too much with normal processes. After all, we do not know thoroughly what effect the thyroid has on the other glands of internal secretion, and it is quite possible that harmful effects may be discovered in the future from its excessive use.

Any attempt to adequately explain the many interactions of the hormones is extremely difficult and when pregnancy is added to the picture the result is like some futuristic painting which only the painter can interpret.

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## Hypophysial Stalk Tumors

## (Case Report)

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**TUMORS** of the hypophysis cerebri usually attract the attention of the pathologist as well as the clinician because they offer interesting problems in pathologic physiology and anatomy. Cystic tumors of the hypophysial stalk may develop at any point along its course from embryonic remains of Rathke's pouch. These cysts usually arise in the suprasellar region, but occasionally they develop within the sella turcica. Depending upon their situation, symptoms may be expected from three sources: (1) intracranial hypertension, (2) disturbance of pituitary function, and (3) compression of the neighboring nervous structures.

The case reported here presented symptoms of compression; the complaint being headache and visual disturbances.

## PRESENT CASE

S. C., white, male, age 55. Admitted U. S. Marine Hospital, New Orleans, La., Feb. 11, 1936. Complaint: Headache and dimness of vision. Present illness began approximately one year before admission. Frontal headaches have been frequent. No vertigo. No nausea, no vomiting. Vision has become progressively worse.

Temperature on admission 98° F. Pulse 80/min. Vision O. D. 20/160. O. S. Counted fingers at 2 feet. Visual fields:—Right homonymous hemianopia. In addition on the left there was perception for form only, no color perception. Fundi: Bilateral optic atrophy that appears to be primary. No evidence of choked disc. Neurological examination negative for pathology other than of optic nerves. Patient was moderately obese but showed no other abnormalities. Blood Wassermann: Negative.

*Stereoscopic x-ray of skull, March 9, 1936:* Sella apparently normal. There was a dense calcification about 2 inches above and ½ inch posterior to the auditory meatus, suggesting a calcified plaque in the falx or in the walls of the lateral ventricle.

Report of patient's record from Charity Hospital: Admitted March 11, 1935; discharged April 2,

1935. Complaint: Headaches and dimness of vision. Neurological examination showed only slight pallor of discs and right homonymous hemianopia. X-ray examination was negative for pressure or bone changes. Blood Wassermann: Negative. Spinal fluid was clear; pressure was 12 mm Hg.; cell count was 10 lymphocytes; globulin, Wassermann and colloidal gold tests were all negative.

A lesion posterior to chiasm along left optic tract or in left frontal lobe was suspected, however, patient requested discharge with no further examination or treatment.

Patient readmitted to U. S. Marine Hospital, New Orleans April 23 1937. Complaint same as on previous admission. Patient thought that his vision was 'worse.

On admission: Physical findings including neurological examination were essentially the same as on previous admission. The vision had apparently improved somewhat in the left eye and also the patient had gained color perception in this eye, color perception having been entirely absent on previous examinations. Visual fields otherwise remained the same, showing right homonymous hemianopia. Vision O. D. 20/160. O. S. 20/160.

*Stereoscopic x-ray of skull, April 28, 1937:* Calcifications previously reported, unchanged (March 9, 1936). Sella turcica negative.

Spinal fluid April 29, 1937 was clear, pressure was 12 mm. Hg., cell count was 1 lymphocyte, faint trace of globulin, Wassermann negative.

*Encephalogram June 7, 1937:* The left lateral ventricle was indistinct but in the stereo a fair outline was discernible and appeared normal. The right ventricle was better shown. The shadow was deformed in the anterior horn and somewhat dilated in the posterior horn. In the A. P. film the right ventricle appeared much smaller than the left, and in the P. A. position the left appeared smaller than the right. These findings agreed with the observations of the lateral films and suggested encroachment on the anterior horn of the right ventricle by a new growth.

*Clinical Diagnosis:* Suprasellar tumor located on the left between the optic chiasm and the optic radiation. Probably a suprasellar meningioma.

The patient died June 8, 1937. Autopsy examination of the brain disclosed the findings examined below.



### PATHOLOGIC ANATOMY

*Gross Examination.* After the frontal lobes of the brain were elevated from the anterior fossae, the olfactory bulbs freed from the cribriform plate and the olfactory nerves cut the brain fell back and a greyish ovoid mass loomed into view. The mass was carefully undermined and fortunately came away intact from the diaphragm of the sella.

On inspection the cystic nature of the specimen was immediately evident. It occupied the entire interpenduncular fossa, bulging out from it. It measured  $2\frac{1}{2} \times 4$  cm. in diameter. The wall was thin and fibrous in character. Here and there in the wall clusters of small yellowish-white bodies less than 1 mm. in diameter were discernible. Adjoining the left peduncle granulation tissue-like proliferations grew from the cyst wall into the peduncle.

Careful dissection disclosed the mass to be adhered to the optic chiasm, the left optic tract, temporal lobe and peduncle. Attempts to free it caused its rupture with the escape of about 8 c.c. of turbid, watery, brownish fluid. Upon opening the cyst wall, free and attached deposits of yellowish-white granular glistening material were seen. Further examination showed the third ventricle to be practically obliterated. The lateral ventricles were enlarged and the anterior horns were prominently dilated.

*Microscopic Examination.* Paraffin sections of the cyst wall were stained with Weigert's acid iron chloride hematoxylin and Van Gieson's picrofuchsin, and with a buffered Romanowsky stain<sup>1</sup>.

The cyst wall presented a variety of histologic formations. The capsule and lining consisted largely of loose, edematous fibrous and vascular foreign body granulation tissue containing cystic spaces of various sizes. Some of the spaces were filled with albuminous coagulum and others with mixtures of cholesterolin crystals, necrotic and calcified tissue debris, blood, blood pigment, keratinized epithelial squames and amylaceous bodies. Throughout the wall there were foreign body giant cells and foreign body giant cell granulomata enclosing rich collections of cholesterolin crystals. Dense infiltrations of lymphocytes were seen here and there. Parts of the wall were hemorrhagic and contained large thromboncrotic blood vessels.

The striking observation was the finding of short stretches of squamous epithelium lining the wall, lining an occasional cyst, and snared off in the outlying stroma of the wall. Some of these showed all of the characteristics of epidermis, namely, intercellular prickles, keratohyalin granules, keratinization and occasionally pearl body formations. Rarely islets resembling an embryonal tooth bud were encountered in the stroma of the wall.

### DISCUSSION

Certain embryogenic facts are important for an understanding of the development of hypophysial stalk tumors. The posterior lobe of the hypophysis is derived from the brain, while the anterior lobe is an off-shoot from the primitive buccal cavity. This part can be recognized as the mouth or stomodeum in the embryo by the end of the 4th week. The stomodeum is lined by ectoderm. It is, therefore, an ectodermal evagination known as Rathke's pouch. This extends upward to meet a downgrowth from the diencephalon. In the 3rd month of intra-uterine life, the connection of Rathke's pouch with the buccal cavity begins to disappear and is finally completely severed by the developing sphenoidal bone. Its epithelial lining becomes squamous. Finally it grows into the neighborhood of the stalk

of the hypophysis and partially surrounds it. It is in this region that remnants persist as nests of squamous epithelium from which the cysts undoubtedly arise.

Erdheim<sup>2</sup> has shown that squamous epithelial cell masses are present in the hypophysis of 80% of adults, particularly in the prolongation which extends parallel to the infundibulum almost to the chiasm. This, of course, represents the site in the embryo where the ectodermal hypophysial duct inserts into the anterior lobe of the hypophysis. These squamous islets are remnants of the duct which usually disappears during embryogenesis. That tumors may arise from these "embryonal rests" was first suggested by Mott<sup>3</sup> and established conclusively by Erdheim.

These cysts form the most common tumors derived from the hypophysial duct<sup>4</sup>. They may occur at any age but 90% develop before the twentieth year and about 50% before the fifteenth year.

### DIAGNOSIS

The signs and symptoms vary with the pathologic anatomy produced by the growth. They may be classified as those due to (1) intracranial hypertension, (2) disturbance of pituitary function, and (3) compression of the neighboring nervous structures. It is also interesting to note that the complaints of the patients vary according to their ages<sup>5</sup>.

Children complain of headache and vomiting. Troublesome polyuria and enuresis may be present. Disturbances of endocrine character are usually present. These may be of the Lorain or Froehlich type. Although precise visual fields are difficult to obtain from children, examination often reveals bilateral discs and bitemporal hemianopia.

Young adults complain of headaches or of failing vision. They are frequently concerned about disturbances in the sexual sphere. Failing libido, amenorrhea and obesity are prominent complaints. Bizarre alterations of the visual fields are common.

Older patients complain of headaches or of visual disturbances.

Frequently only signs of intracranial hypertension are present due to the development of hydrocephalus from closure of the foramina of Munro or the aqueduct of Sylvius.

The x-ray is an important diagnostic adjunct. About half of all hypophysial duct tumors produce a patchy or spotty shadow of calcification, usually above, but occasionally within the sella turcica. The shadow may be minute and so faint as to be scarcely visible, or it may be quite large and dense. In our material, although calcifications were present in the histologic sections, no trace of a shadow was demonstrable in the x-ray films.

*Treatment.* The difficulties and dangers attending any attempt at removal practically preclude radical intervention<sup>6</sup>. Recently, Carpenter, Chamberlain and Frazier<sup>7</sup> treated four patients by irradiation and aspiration. They were alive and well on an average of thirty and one-half months after

treatment was instituted. The important feature of this treatment is its freedom from risk.

U. S. Marine Hospital.

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## OUR CHAMPIONS

Up for action in the current legislature of the state of Texas was a bill calculated to partially limit some of the current illegal practices by certain cults now suckling at the bosom of the public. Not much is said in the bill about chiropractors or any other cult specifically. It is true that the proposed act will help some in cleaning up certain practices of the chiro-racketeers that always have been illegal in Texas.

Chiro-racketeers are notoriously welcome in the business offices of the newspapers, for they buy space in satisfactory quantities wherein they may flaunt their dubious wares before the eyes of a not too critical section of the general public.

The El Paso HERALD POST has this to say:

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It would run the chiropractors out of Texas, and why they should be chased out is hard to see. A lot of people prefer chiropractors, and while we would not be caught sick in a chiropractor's office, we think any American who wants to should have that privilege.

As The Dallas News says:

"There is a great deal of intolerance in the medical profession, often of course, justly applied. But the history of medicine is so replete with record of

hostility to new thought that in time became dogma as to suggest that the doctors are certainly not always right. Medicine must admit in all candor that its progress has been made over the dogged resistance of its own disbelief."

This Medical Practice Act is one with the barbers price-fixing bill and the 'fair trade' act. It is legislation for the benefit of the few."

Isn't it a breathless sight to behold the sweaty alacrity with which the minions of the daily press leap forth from their ink-stained caves and gird their loins to do battle for the "Dear Peepul's" rights now and then, especially when there is danger of slowing the beat of the bell on the cash drawer in the newspaper advertising department?

Adding the smelliness of some of the advertising now carried in the daily press to some of the belaboring Our Champions have taken lately leads to the inescapable conclusion that the once heroic loin cloth is rapidly dwindling in the eye of the public to just a tattered G-string.

It is no more the right of the less discriminating section of the public to have their necks rubbed by a chiro for their syphilis than it is for them to walk around spreading diphtheria and typhoid just as innocently. In both circumstances the sick one is a menace to society for the time being, and the police power of the state can and should be called into action to protect the general public, no matter whether the individual wills it or not. The law of quarantine and public welfare in general is a prerogative of the state, not the individual. That physicians have supported the strengthening of this power is all to their credit.

## PHYSICIAN'S KNAVES?

Some time ago SOUTHWESTERN MEDICINE had something to say regarding the implications of the indictment of the American Medical Association<sup>1</sup>. Keyed closely to that statement is a recent opinion<sup>2</sup> by Dr. Henry Luce, president of the Michigan State Medical Society addressing a special session of his House of Delegates:

"I, for one, would like to have the American people know that I personally as a physician feel that I have been indicted by the United States Government; that the impugned reflection on the integrity of the American Medical Association is considered by me as a reflection upon myself. I believe that the rest of you feel much the same.

I should like to have every citizen of the United States know that his family physician has been indicted. Can you make that mother whose child's life has been saved think that her doctor is a knave? Can the millions of people that twenty-five years ago would have died of typhoid, diphtheria, diabetes, cholera infantum and other diseases, who walk the streets today and enjoy life's bounty, be made to say that American medicine deserves indictment? The blind have been made to see, the lame to walk, and the ill restored to health under our American system that never has defaulted an obligation nor proved unfaithful to trust."

1. S. W. Med., 22:368; Sept., 1938.

2. J. M. S. M. S., 38:151; Feb., 1939.

## ARIZONA ANNUAL SESSION

Elsewhere in this issue there may be found the final program and announcements of the annual session of the Arizona State Medical Association, scheduled to open in Phoenix, April 13. The meeting ends April 15.

The following guest speakers are to appear:

Drs. Webb Weeks, New York City (Ophthalmologist); Lewis Morrison, San Francisco (Otolaryngologist); Alton Ochsner, New Orleans (Surgeon); John C. Jones, Los Angeles (Diseases of the Chest); Norman Miller, Ann Arbor (Gynecology and Obstetrics); Frederick Kellogg, Long Beach, Calif. (Internist); E. H. Cary Dallas, Texas, former President American Medical Association (Public Meeting and House of Delegates).

In addition, 9 Arizona authors will present papers.

The entire program is exceptionally well balanced, in that representatives of varied specialties will teach during the session, and suitable provision for discussions on medical economics are added.

The calibre of this meeting is such that it merits support and attendance from not only Arizona members, but also from the medical men of New Mexico and El Paso. As usual, the Arizona physicians offer to all who may attend as their guests a sure-enough welcome.

Any one who has ever attended a session of the Arizona State Medical Association can testify that he was highly repaid for his attendance. Eminent teachers, adequate entertainment, the fellowship of good friends—these things should be of appeal to the physician needing a few days of rest from his winter's labors. On to Phoenix!

## THE HOPE OF CHEMOTHERAPY

The discovery of sulfanilamide and its subsequent world-wide adoption as a potent addition to the armamentarium of the physician has given fresh impetus to research in the chemical laboratories. For long it has been predicted that startling discoveries in therapeutics would flow from the work of the chemist.

Chemistry has contributed mightily to the diseased and injured of this earth since the days of Paul Ehrlich, founder of modern chemotherapy. Sometimes these contributions have simply been stumbled upon during the course of unrelated experimentation. At other times they have stemmed from the parent discovery, at the cost of long, purposeful research.

Much more chance was involved in the final adaptation of sulfanilamide to clinical uses. Now that the drug is in almost universal use appertaining to both geographical distribution and widespread application in the vast field of diseases, it is not remarkable that chemists are diligently at

work on compounds and derivatives of this substance. The hope is that other, more valuable siblings and kin-folk may be brought to scrutiny, now that the parent is well known.

Some interesting derivatives under investigation at present are: (1) sulfapyridine expected to prove valuable in the treatment of pneumonia; (2) sodium-sulfanilyl-sulfanilate, proving useful in certain virus diseases of ferrets and rabbits, possibly related to the viruses harmful to man; (3) 2-5 bis sulfanilamidobenzene sulfonic acid, which seems to confer some immunity against human influenza virus.

Dare physicians in the clinical fields hope that our brothers in the laboratories will soon give to us suitable chemical agents to use in our often discouraging battles with the common cold, poliomyelitis, rabies, tuberculosis, encephalitis, brucellosis, tularemia? A world confident in the capabilities of unhampered scientific research awaits the answer.

## PROBLEM OF BURNS

Severely burned patients often show alarming reactions, such as high fever, marked asthenia and a great degree of toxicity. Death is the outcome of many cases, despite all therapeutic measures in use today. Reasons for death subsequent to severe burns are not yet well established, although several principal theories are recognized. Damage to internal organs such as pancreas or liver, increased viscosity of the blood (hyper-concentration) and the production of toxins at the site of the burn giving rise to a generalized intoxication, are some of the possibilities to be considered when attempts are made to assign an exact etiology to fatal outcome in cases of severe burns.

Cohn<sup>1</sup> states: "There are very few surgical conditions which we approach today in which the mortality is so high or where we are confronted with so many problems which are not clear. There is neither a unanimity of opinion as to the etiology of the cause of death, the early and late manifestations of serious burns and, if one is to judge by the lack of uniformity of management, there is anything but a definite routine for the management of these cases."

It is apparent that, despite the centuries-old effort to understand and treat burns in a logical manner, there are still too many unanswered questions, too much poorly-directed thought on the subject. Cohn<sup>2</sup> suggests that reports on cases of burns from various institutions be made rather uniform, so that comparable information may be exchanged among medical centers. Some such a plan would seem to be necessary if certain of the perplexing aspects of severe burns are ever to be intelligently cleared up.

1. Cohn, I.: Burns, an Unsolved Problem. New Orleans M. and S. Jo., 91:465, March, 1939.  
2. Ibid.



## *Special Section* Arizona State Medical Association

J. D. HAMER, M. D.  
*Associate Editor*

### REVISION OF CONSTITUTION

Concurred in by House of Delegates 1938, with final action or adoption, 1939.

#### ARTICLE I—*Name of the Association*

The name of this organization is the ARIZONA STATE MEDICAL ASSOCIATION.

#### ARTICLE II—*Purposes of the Association*

The purposes of this Association are to bring into one compact organization the entire medical profession of the State of Arizona and to unite with similar societies of other states to form the American Medical Association; to promote the science and art of medicine; to elevate the standard of medical education; and to promote public health.

#### ARTICLE III—*Composition*

This Association shall consist of active, associate, and affiliate members, who conform with the provisions of such membership as hereinafter provided in the By-Laws.

#### ARTICLE IV—*Component Societies and Councilor Districts*

Section 1. The membership of this Association shall be organized into county or district medical societies. The functions of each such society and its relation to the Association shall be defined in a charter issued to it by the Association. Every charter so issued may be subject to amendment and to revocation by the Association in such manner as may be prescribed in the By-Laws of the Association.

Section 2. A component county society is an aggregation of members of this Association living in one county, or an amalgamation of two or more counties.

Section 3. A component district society is an aggregation of members of this Association living in such districts as to make the organization of individual county societies inadvisable, or an amalgamation of two or more county societies.

Section 4. The Council, with the approval of the House of Delegates, shall designate the number of councilors and shall arrange the component societies into councilor districts.

#### ARTICLE V—*House of Delegates*

Section 1. The House of Delegates shall be the governing body of the Association invested with the right to vote.

Section 2. Composition of the House of Delegates. The House of Delegates shall consist of:

- (a) Delegates elected by the component county societies;
- (b) The Officers; the Councilors.

#### ARTICLE VI—*The Council*

Section 1. The Council shall be the Board of Trustees of this Association, and shall be the Finance Committee of the House of Delegates. It shall consist of the Councilors, the President, the President-elect, the Vice-President, the Speaker of the House of Delegates, the Chairman of Medical Defense, the Secretary, the Treasurer, and the Delegate to the American Medical Association. A majority of the Council shall constitute a quorum.

Section 2. The Council shall have full power and

authority of the House of Delegates between Annual Sessions, unless the House of Delegates shall be called into special session as provided in this Constitution.

Section 3. The retiring president shall, each year, automatically become a member of the Council for a period of three years. He shall be designated as a Councilor-at-Large.

#### ARTICLE VII—*Annual Sessions and Meetings*

Section 1. This Association shall hold an Annual Session during which there shall be held General Meetings, which shall be open to all registered members and guests.

Section 2. The general time and place for holding each Annual Session shall be fixed by the House of Delegates, or such authority may be delegated to the Council.

Section 3. Special meetings of either the Association or the House of Delegates may be called by the President on a two-thirds vote of the Council or upon petition of twenty delegates representing at least eight component societies.

Section 4. All meetings of the Council shall be called by the Chairman of the Council or upon petition by three Councilors.

#### ARTICLE VIII—*Officers*

Section 1. The officers of this Association shall be a President, a President-elect, one Vice-president, a Secretary, a Treasurer, a Speaker of the House, and three Councilors.

Section 2. The officers, with the exception of the Councilors, shall be elected annually. The terms of the Councilors shall be for three years; at least one member of the Council to be elected each year. All these officers shall serve until their successors are elected and installed.

Section 3. All officers shall assume office immediately following the session at which they were elected. The President-elect shall assume the office of President at the first meeting of the Annual Session following his election.

Section 4. In case of vacancy in office, unless otherwise provided for in this Constitution and By-Laws, the Council shall have power to appoint temporarily a successor, until the House of Delegates shall meet and re-elect one, or until the next Annual Session.

#### ARTICLE IX—*Funds and Expenses*

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates but shall not be less than \$12.50 per capita per annum, which amount shall include the annual subscription to the official Journal. Funds may also be raised from the Association's publications, by voluntary subscriptions, and in other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. Funds may be appropriated to defray the expenses of the Association, for scientific and educational publications, and for such other purposes as will promote the advancement of medicine. All resolutions appropriating funds must first be approved by the Council before action is taken thereon.

#### ARTICLE X—*The Seal*

The Association shall have a common seal, and

# ARIZONA POLLEN EXTRACTS

for

## Arizona Hay Fever Patients

Our pollen extracts are prepared by standard methods from carefully selected Arizona Pollens.

Desensitization of your hay fever patient is a highly individualized procedure and to be successful must be prepared from extracts of the offending pollens determined by skin sensitization tests.



### **PATHOLOGICAL LABORATORY**

**Suite 507 Professional Building  
Phoenix, Arizona**

W. Warner Watkins, M. D.  
C. N. Boynton, M. A.

Harlan P. Mills, M. D.  
W. J. Horspool, Bus. Mgr.



the House of Delegates shall have power to break, change or renew the same.

#### ARTICLE XI—*Amendments*

Section 1. The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been submitted in writing to the membership, or printed in the official publication of the Association, not less than one month before the meeting at which final action is to be taken.

Section 2. Upon adoption of this Constitution all previous Constitutions are thereby repealed.

#### ARTICLE XII—*By-Laws*

The authority for passing By-Laws to the Constitution of the Association shall be vested in the House of Delegates.

Revision Committee:

Dr. C. R. Swackhamer, Superior.

Dr. Hal W. Rice, Bisbee.

Dr. J. D. Hamer, Phoenix.

## CASE NOTES

### ATHETOSIS DUE TO SENSITIZATIONS— PARTLY POLLEN

ORVILLE HARRY BROWN, M. D.  
*Phoenix, Arizona*

A young woman school teacher was seen first on March 12, 1938. About November of 1937 she began to have "jerking" of the left side of her neck, mostly when tired, which gradually spread to the left arm, hand and leg. She also developed an apparent thickness of her tongue—enough at times to interfere seriously with her speech; she also had pains in her elbow, wrist and fingers. The fingers even seemed slightly swollen at times. She complained of extreme leg-aches, toward the end of the day when fatigued. She has suffered greatly from recurring colds and had a window in the right antrum. She had much eye-strain and had had her eyes examined for glasses but could see better without them than with them, even though repeated attempts had been made to fit her. She was afflicted with mild constipation and had probably a mild hypo-ovarianism. At the time of her consulting me there was a mental factor; she was avoiding friends and tended to be a recluse. She felt that she was "queer"; at times her mental capacity was definitely affected so that she could not think "straight."

Her nose had pus in it, and although the sinuses did not transilluminate as clearly as would be expected for a normal nose, surgical work did not seem indicated; her tonsils were small and scarred; throat was red; there was a slight vaginal discharge. Her metabolism test was 13 minus. The blood calcium was 8.7 mg. per cent—the lowest of several tests. This soon returned to normal after a few intravenous injections of calcium but without noticeable improvement of the athetosis and other symptoms.

Thyroid extract was given; the nose and throat were treated from the start, without noticeable af-

fect upon the symptoms except those local from the nose and throat. The hemoglobin was 95%; the coagulation time was two to three minutes and the sedimentation rate was 4 mm. in one hour; the Kahn and Kolmer tests were negative.

She reacted to a large number of foods which were eliminated from her diet and mostly on subsequent trials these were proven to have harmful effects upon her. She was definitely better after the foods suspected of being harmful were eliminated.

She also reacted to feathers, orris root, house-dust, rayon and silk and to a considerable number of bacterial (stock) vaccines; all of these were put into a saline solution, highly diluted, and administered according to the reaction from a spot where a small portion of the combined vaccine was given intracutaneously each time. An over-dose of vaccine would aggravate her general symptoms, hence we believed we were helping her by continuing its administration.

Her improvement was really marked under this regime but it seemed that she had exacerbations which were unexplained on the findings and that the exacerbations of her jerking spells and dimmed mentality came especially on windy days. She was then tested for pollens (1/5000) intracutaneously, and she gave 24-hour reactions of redness varying from 15 to 40 millimeters in diameter. Each pollen of this section to which she reacted was given her in small doses, and her improvement from then on was more marked than it had been at any time since starting treatment.

I presume her colds were a partial evidence at least of her sensitivity to pollens; and certainly the pollens had a definite part in producing her athetosis and mental symptoms.

This young woman is now well of the athetosis and has been for six to seven months. She still has slight mild annoyances from her foods occasionally though she has been on a general diet for several months. She is still subject to colds and is under treatment on this account.

Summary: This case had a marked athetosis on left side with diminished mental capabilities to sensitizations to foods, bacteria, and inhalants including pollens; pollen inoculations were started after all other treatment was well underway and seemed to be striking in their beneficial effects.

### EFFECT OF UNNEUTRALIZED ARSPHENAMIN ORVILLE HARRY BROWN, M. D.

*Phoenix, Arizona*

I am prompted to report this incident, though occurring years ago, because of a death which I recently read of (reference lost) from administration to a patient of an unneutralized solution of arspnenamin.

My patient was sitting at a table on which his arm was resting. Neoarsphenamin was being given him. Shortly after the start of the injection he collapsed and became unconscious. I withdrew the needle from the vein, laid the syringe aside and stretched the patient out on the floor. The re-

mainder of the arsphenamin was quickly neutralized with a trifle more alkali than usually used and, introduced into his blood stream. Almost as quickly as he "passed out" he "came back" and seemed to be none the worse for the experience.

This is only one observation; it may, however, help others who may have a similar break in technique.

## COMMUNICATIONS

Sir:

I am enclosing a list of our guest speakers and the titles of their subjects for the coming New Mexico State Medical Convention.

Will you kindly publish this in *SOUTHWESTERN MEDICINE* so as to give the readers an idea of the fine program we are endeavoring to put forth. At a later date I shall send you a complete program.

Yours truly,

*D. F. MONACO, M. D.,*  
*Chairman of Program Committee.*

(Ed.) Speakers listed to date:

1. CHARLES H. ARNOLD, Lincoln, Neb.  
Secretary of the International College of Surgeons.  
Subject: Splanchnic and Brachial Block Anesthesia.
2. BENJAMIN H. ORNDORFF, Chicago, Ill.  
Fellow of the American College of Surgeons.  
Professor of Roentgenology, Loyola University.  
Professor of Radiology, Loyola University.  
Surgeon, Division of Electrosurgery, Grant Hospital.  
Consulting Radiologist, North Chicago and American Hospitals.  
Subjects: 1. Early Changes in the Endometrium, Diagnosis and Management. 2. Electrosurgery and Radiotherapy for Breast Malignancy.
3. E. PAYNE PALMER, Phoenix, Ariz.  
Fellow of the American College of Surgeons.  
President of Staff, St. Joseph's Hospital.  
Attending Surgeon, Good Samaritan Hospital.  
Consulting Surgeon, St. Luke's Hospital.  
Subject: Suspicious Cancer Symptoms.
4. JACK G. HUTTON, Denver, Colo.  
Instructor in Dermatology and Syphilology, University of Colorado.  
Syphilologist, City Veneral Clinic, Denver, Colo.  
Diplomate of National Board of Dermatology and Syphilology.  
Subject: The Diagnosis of Syphilis.
5. PAUL J. CONNOR, Denver, Colo.  
Endocrinologist.  
Subject: The Objective Signs in the Diagnosis of Endocrinopathies.
6. WILLIAM H. DANIEL, Los Angeles, Calif.  
Fellow of the American College of Surgeons.  
Associate Professor of Surgery, University of Southern California.  
Attending Proctologist, Los Angeles County, Hollywood, Cedars of Lebanon, Queen of Angels and California Hospitals, Olive View Sanitarium and Orthopedic Hospital School.  
Member of Staff, Hospital of the Good Samaritan.  
Subject: Proctology for the General Practitioner.
7. NELSON PAUL ANDERSON, Los Angeles, Calif.  
Dermatologist.  
Subject: The More Common Skin Diseases.
8. GEORGE KENT, Denver, Colo.  
Fellow of the American College of Surgeons.  
Member of Staff, Mercy, St. Luke's, Presbyterian and Children's Hospitals.  
Subject: Unannounced.
9. HAROLD LINCOLN THOMPSON, Los Angeles, Calif.  
Fellow of the American College of Surgeons.  
Assistant Professor of Surgery, Medical Evangelists.  
Attending Surgeon, Hospital of the Good Samaritan, St. Vincent's and Los Angeles County Hospitals.  
Subject: Surgical Treatment of Peptic Ulcer.
10. PHILIP CORR, Riverside, Calif.  
Fellow of the American College of Physicians.  
Assistant Professor, College of Medical Evangelists.  
Subject: 1. Management of Diabetes. 2. Paper on the Anemias.

11. H. J. GOUBEAUD, Brooklyn, N. Y.  
Fellow of the American College of Surgeons.  
Attending Obstetrics and Gynecology, Kings County, St. Mary's and Holy Family Hospitals.  
Instructor in Obstetrics and Gynecology, Long Island College of Medicine.  
Lecturer in Obstetrics in training schools at Kings County and St. Mary's Hospitals.  
Subjects: 1. Ruptured Uterus. 2. Ruptured Ectopic Pregnancy.
12. OSCAR B. NUGENT, Chicago, Ill.  
Treasurer of the American Chapter of the International College of Surgeons and Member of the Executive Council.  
Chief of Staff, Chicago Eye, Ear, Nose and Throat Hospital.  
Director and Dean of the Chicago Eye, Ear, Nose and Throat College.  
Professor of Ocular Surgery, Chicago Eye, Ear, Nose and Throat College.  
Fellow of the American College of Surgeons.  
Consultant in Ophthalmology, Jane Smith and Washington Old People's Home, Chicago; Godair and King Bruart Homes, Hinsdale.  
Subject: Eye Conditions of Interest to the General Physician.
13. R. RUSSELL BEST, Omaha, Neb.  
Fellow of the American College of Surgeons.  
Fellow of the International College of Surgeons.  
Assistant Professor of Surgery and Anatomy, University of Nebraska.  
Member of Staff, Bishop Clarkson Memorial, Douglas County, University of Nebraska and Nebraska Methodist Episcopal Hospitals.  
Subject: The Physiological Biliary Flush as an Aid in the Management of Biliary Tract Disease.
14. R. W. LAMSON, Los Angeles, Calif.  
Professor of Preventative Medicine and Hygiene, University of Southern California.  
Subject: Allergy and Pseudo-allergy in General Practice.
15. HOWARD WEST, Los Angeles, Calif.  
Clinical Professor of Medicine, University of Southern California.  
Subject: Symptomatology and Etiology of Spontaneous Hypoglycemia.

Sir:

We would appreciate it if you would announce the time and place of the next annual meeting of the American Association for the Study of Goiter. This meeting will be held in Cincinnati, Ohio, May 22nd, 23rd and 24th. The program for this three day meeting will consist of scientific papers dealing with goiter and other diseases of the thyroid gland, dry clinics conducted by guests of the Association and operative clinics in the various hospitals in Cincinnati.

The Association is offering the Van Meter Prize Award for the best essay presented in competition in accordance with the enclosed announcement. We would, of course, appreciate any publicity that you may feel disposed to grant us in your Journal concerning this Award.

Very truly yours,

*W. BLAIR MOSSER, M. D.,*  
*Corresponding Secretary.*

## INJECTION RELIEVES PAINFUL HEELS

Thirty-one of thirty-three persons were relieved of painful heels (calcaneal spurs) by a simple injection method which James R. Regan, M. D., Milwaukee, reports in *The Journal of the American Medical Association*.

For the last five years Dr. Regan has injected one-half cubic centimeter of sodium morrhuate in a 5 per cent solution of benzyl alcohol in those individuals with painful heels who did not respond to the use of well-fitting supports, felt pads, shoe correction, etc.

The relief obtained usually lasts for between two and three years, after which another injection may be given.



## NEWS

### General

The American Association for the Study of Goiter offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Cincinnati, Ohio, on May 22nd, 23rd and 24th, 1939, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten, double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than April 15th, 1939. The Committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication, however, in any Journal selected by the author.

The Philadelphia Academy of Surgery announces the Samuel D. Gross Prize of Fifteen Hundred Dollars.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice founded upon original investigations, the candidates for the prize to be American citizens."

Is it expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1940.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

The Medical Corps of the United States Navy offers a number of internships and commissions to graduates of Class "A" medical schools who have completed or are about to complete an internship in a civilian hospital. Examinations will begin on May 8, 1939, and applications should be on file at least one month prior to that date. Detailed information may be secured by writing the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

The Faculty of the Harvard School of Public Health offers a short course of lectures, clinics, and demonstrations on the virus and rickettsial diseases, with special emphasis on their public health significance, to be held at the School during the week of June 12-17 1939. Lectures on the etiology, epidemiology, and methods of control of these diseases, given by members of the Faculties and by former students of the Harvard School of Public Health and of the Harvard Medical School, will occupy five mornings. Special clinics and demonstrations will be given each afternoon. In some instances these demonstrations will be continued through the week, so that all the members of the symposium can attend. On the last morning, a panel discussion will be held on the three main topics presented in the symposium.

The fee for the course will be \$25.00, payable at any time up to June 12. Enrollment, however, should be arranged before June 1, as facilities for many of the clinics and demonstrations are limited. The lectures will be published later in a single volume, which will be sent to each person who has registered for the course.

Further information may be had by writing to the Secretary of the School of Public Health, 55 Shattuck Street, Boston, Massachusetts.

Monday, May 1, 1939 has been designated as Child Health Day by the Children's Bureau of the United State Department of Labor. Child Health Day activities are sponsored by the Children's Bureau at the request of the State and Provincial Health Authorities of North America, in accordance with the Congressional resolution of May 18, 1928, which authorized the President to proclaim May Day as Child Health Day. The slogan of the movement is "The health of the child is the power of the nation." The State May Day Committee, in conjunction with the State Department of Health usually directs the Child Health Day program that will best contribute towards strengthening the year-round Child-Health movement.

The Third International Cancer Congress will be held under the auspices of the International Union

Against Cancer, in Hadden Hall Hotel, Atlantic City, New Jersey, on September 11 to 16, 1939.

Membership in the Congress is secured by application to the secretary-treasurer, with remittance of \$15. Make checks payable to the Third International Cancer Congress and mail to Dr. Donald S. Childs, 713 East Genesee Street, Syracuse, New York.

Membership in the Congress does not include the right to present a paper unless the paper or an abstract has been submitted to and been approved by the Program Committee. All papers must be accepted without an abstract. The Program Committee reserves the right to reject any paper without recourse. All papers and abstracts, as well as any questions pertaining to them, should be addressed to Professor Francis Carter Wood, President, Third International Cancer Congress, 630 West 168th Street, New York, N. Y.

The proposed sections are as follows: General research; biophysics; genetics, general pathology of cancer; surgery; radiological diagnosis; radiotherapy; statistics; and education.

The California State Personnel Board requests applications for positions of senior and student intern. Certain professional qualifications are necessary in order to gain admission to the Board's eligibility list. Applicants must be citizens of the United States. Successful applicants may be appointed to positions in state institutions for the mentally diseased or deficient. Salary of senior interns is \$50.00 a month plus maintenance for himself and family. \$25.00 a month and maintenance is offered student interns. Complete details may be obtained from the State Personnel Board, 1025 P. Street, Sacramento, California.

For the fifth consecutive year, the psychiatric staff of the Menninger Clinic, Topeka, Kansas, will offer a week's postgraduate course in *Neuropsychiatry in General Practice*, April 17-22. This has been attended by physicians from nineteen states in the past four years. Enrollment is limited to thirty. Inquiries should be addressed to Dr. Robert P. Knight, Chairman.

### *El Paso*

El Paso's infant mortality rate for 1938 was the second lowest in 18 years, the City-County Health Unit has reported.

Infant deaths in 1928 totaled 241 compared with 278 in 1937 and a five-year average of 272.

The infant death rate was 87 per 1000 live births compared with 106 in 1937 and a five-year average of 103. The lowest rate on record since the health department started keeping records in 1910 was 80 in 1936.

It was the third time in 18 years that the rate has been below 100. The third best record was 1932 when the rate was 93.

During 1937, there were 2752 births compared with 2620 in 1937 and a five-year average of 2639.

The highest infant death rate in the last 10 years was 134 in 1929.

The death rate in El Paso from all causes was the lowest since 1912. Deaths for the year totaled 1939 compared with 1501 in 1937.

The El Paso Mothers' Health Center, affiliated with the Birth Control Clinical Research Bureau of the New York City, reports for the period January 1, 1938 to January 1, 1939:

Total number of patients.....	1170
New patients .....	556
Old patients rechecked .....	614
New patients advised .....	514
New patients not advised an account of pregnancy or illness .....	42
Nationality	Religion
American .....150	Catholic .....364
Mexican .....378	Protestant .....131
Negro .....5	Hebrew .....2
Syrian .....4	Others .....59
Chinese .....2	
Others .....17	

The regular meeting of the City-County Hospital Staff was held Wednesday, February 15, 1939, at 6:30 P. M., at City-County Hospital. The program was as follows:

"Traumatic Rupture of the Bladder"—Dr. Robert F. Thompson.

Discussion by Dr. Wickliffe Curtis. Discussion of fracture of pelvis in same case by Dr. Louis W. Breck.

The regular meeting of the El Paso County Medical Society was held February 13, 1939. Dinner was served. The scientific program, presented by the Interne Staff of the El Paso City-County Hospital, was as follows:

"Uterine Fibroids"—Dr. L. T. Hamilton.

"Amnesia"—Dr. Ira L. Howell.

The regular Staff Meeting of the Hotel Dieu Sisters' Hospital was held Wednesday, February 7, 1939, at 12:30 P. M. in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

"Anuria Following Operation for Gangrenous Appendix"—Dr. C. E. Jumper.

Discussion by Dr. Paul Gallagher.

"Rheumatic Condition," "Broncho Pneumonia"—Dr. E. B. Rogers.

Discussion by Dr. F. P. Miller.

The regular Dinner and Staff Meeting of the Southwestern General Hospital was held Friday, February 24, 1939, at 6:30 P. M. in the Hospital Auditorium. The program was as follows:

"Case for Diagnosis"—Dr. A. P. Black.

Open Discussion.

"Adenocarcinoma of the Bladder"—Dr. A. W. Multhaupt.

Discussion by Dr. H. E. Rogers.



The regular meeting of the El Paso County Medical Society was held February 27, 1939. Dinner was served at 7:00 P.M. The scientific program which followed at 8:00 P.M. was a discussion of fever therapy, as follows:

"Review of Literature"—Dr. E. A. Duncan.

"Discussion of Fever Induced by Typhoid Vaccine and Malaria"—Dr. L. M. Smith.

"Sydenhams Chorea Treated with Induced Fever"—Dr. A. P. Black.

"Treatment of Gonorrhea"—Dr. B. A. Wright, Kermit, Texas.

General Discussion opened by Dr. George Turner.

### *New Mexico*

The opening of the Womack Clinic, 701-3 North Canal St., Carlsbad, New Mexico, has been announced by Dr. C. L. Womack of Carlsbad. Associated with Dr. Womack in the Clinic are Dr. Frank C. Bohannon, Dr. Clay Gwinn, and Dr. S. B. Bonney, dentist. A clinical laboratory will be operated in connection.

Dr. J. W. Myers has been appointed Superintendent of the New Mexico State Hospital at Las Vegas.

Dr. Troy C. Sexton, 65, one of the outstanding physicians of Las Cruces, died February 22, 1939 in the family home. He was a former mayor of Las Cruces, and was prominent in city and county affairs many years. Dr. Sexton came to Las Cruces from New Orleans 34 years ago. Survivors are the widow, Mrs. Lea B. Sexton, Las Cruces postmistress; a daughter, Mrs. Jack Skaggs, of Las Cruces, and a son, Robert Sexton, of Mitchel Field, N. Y.

## AUXILIARY NEWS

### *Bernalillo County*

(New Mexico)

The first meeting of the new year for the Bernalillo County Medical Auxiliary was held September 26th at the home of Mrs. J. W. Myers (in Albuquerque), at which time plans for the year's work were discussed. October 31, the meeting was held at the home of Mrs. H. L. Brehmer. November 28, the meeting was at the home of Mrs. L. F. Elliott, at which time all members sewed Christmas stockings which they later filled and donated to the Christena Kent Day Nursery.

On January 30th, the annual tea for all Bernalillo County doctors' wives was held at the home of the president, Mrs. J. W. Hannett. In the receiving line with Mrs. Hennett were all the officers for the year, including: Mrs. Leo Cohenour, vice-president; Mrs. Carl Mulky, secretary; Mrs. I. B. Ballenger, treasurer; Mrs. J. W. Myers, corresponding secretary, and Mrs. B. F. Roberts, publicity chairman. Approximately forty guests attended.

The February meeting, a jelly shower for St. Anthony's Orphanage was held the last Monday of the month, at the home of Mrs. Carl Mulky.

HELENE MYERS,  
Corresponding Secretary.

### *El Paso County*

Dr. George Turner spoke on "Socialized Medicine" at a meeting of the Woman's Auxiliary to the El Paso County Medical Association at 3:00 P.M., Monday, February 13, 1939, in the home of Dr. and Mrs. A. W. Multhauf, 935 Rim Road.

Paul Miller played flute solos, and Mrs. Frank Cameron played a piano solo.

Hostesses, in addition to Mrs. Multhauf, were: Mesdames T. C. Liddell, A. D. Long, K. D. Lynch, C. H. Mason, T. J. McCamant, Paul McChesney, Irving McNeil, Y. M. Milan, J. L. Murphy, S. H. Newman, P. R. Outlaw, James A. Pickett, and R. L. Ramey.

### *Maricopa County*

(Arizona)

The Auxiliary to the Maricopa County Medical Society is making plans to entertain the wives of the doctors who attend the state convention at Phoenix in April. A committee on entertainment has been named as follows: Mrs. C. C. Craig, chairman; Mrs. Ralph Palmer, Mrs. Kent Thayer and Mrs. C. W. Sult.

At the December meeting a free-will silver offering was collected to pay for supplies of handcraft materials for the Crippled Children's Home.

A talk on re-dedication to the principles of the constitution was presented during the national re-dedication week by Dick Marsh.

Mrs. F. G. Holmes and Mrs. Ralph Palmer gave papers discussing the national viewpoint on socialized medicine at the January meeting.

## MISCELLANY

### PSYCHOLOGY OF THE AMERICAN LAXATIVE HABIT

The functions of nutrition and sexuality are closely interrelated. This goes back to the fact that the infant makes the output of his alimentary tract, as well as its intake, a means of pleasure. Jones (*Papers on Psycho-analysis*, Ch. XL, pp. 664-688) has elaborated this defecatory theme exhaustively. Normally, this means of pleasure is repressed early in life, but a strong ambition to achieve control of the sphincters is a basic trait. Then the feces are something that the infant makes, which gives this gift to the world value, and there is a pride in the achievement, for which his mother praises him—the first manifestation in man of self-expression, indeed, of the creative impulse. There is also an early aim to increase sphincteric control, which might at times, of course, take the form of expediting excretion. All this interest is infantile but it may revive in the adult, particularly when a veritable propaganda, having directly to do with defecation, is aimed at him by commercialists.

This analerotic character, so much emphasized by the Freudian school, and so often grossly apparent in the relatively infantile orders of mankind, gives us the prevailing cult of the privy and

the vast caproctic folklore so often disguised as humor. This preoccupation with the water closet and keen interest in the events of the toilet found perfect expression a few years ago in the shape of Chic Sales choice book of fecal episodes in the life of Americans.

What wonder, then, that the laxative promoters find an audience perfectly conditioned for their suggestions and appeals. This propaganda fits in exactly with the national psyche in so far as it is infantile.

A very practical aspect of the question has to do with the incidence of appendicitis, undoubtedly a related consequence, many times, of dosage with laxatives and cathartics. So, too, do colonic ailments figure in the vicious set-up, constituting a physiological exploitation of the "feces market."

There is singular truth in the figure of speech about "smelling to heaven" when used in reference to the commercialization of laxatives in America. —*Medical Times*.

#### LOOPHOLE

By a strange anomaly, a layman cannot prescribe for one patient, but he can prescribe for a million. A leading New York City doctor held in his hand the other day the circular of a medical preparation put out by a manufacturer who made no claim to be a physician. The preparation had in it liver extract, ascorbic acid, vitamin B, copper citrate, oil of peppermint, ferrous sulfate, and cottonseed oil. "No chemist would fill that prescription if it were written by a layman," said the doctor, "but a layman can put it up and prescribe it for thousands and millions of people he never saw!" There is a legal loophole badly in need of a stopper.—*N. Y. St. J. Med.*

#### ANALYSIS OF THREE KICKERS

"I cannot understand why so few men attend their county and state medical society meetings. It is not because they are so busy, as the busiest physicians are always found where there is a chance to learn. After years of observation I have reached the conclusion that there are three kinds of physicians who don't attend meetings—(1) the person who has not the ability to plan his work so that he can have an evening for recreation at the meeting; (2) the man who thinks he knows it all, has not read a new book since leaving school, and has no time for reading the *JOURNAL* or other publications; and (3) the man who is afraid he might lose a patient should he leave his office. These three types form the fault-finding group; they complain, but will not come to the meetings and put their shoulders to the wheel, clarify their visions, help remove the faults they see, and become what is most needed by the society and always welcomed by its officers—workers instead of drones or complainers.

"Yes, the opportunity for the present-day physician to be an up-to-date physician is right at his door, and I am not only sorry for those who are missing these opportunities, but for their patients." —*Pittsburgh Medical Bulletin*.

#### HOSPITALS FOR NARCOTIC ADDICTS

A narcotic addict desirous of entering the U. S. Public Health Service Hospital at Lexington, Ky., or Fort Worth, Tex., for treatment as a voluntary patient will, upon application to the Surgeon General of the U. S. Public Health Service, Washington, be furnished the necessary blanks and instructions. A charge of \$1 per day is made; but if an applicant is impecunious, this charge will be waived upon presentation of certain proof. In order to be eligible for treatment, a person must be a citizen of the U. S. and be a habitual user of opium or coca leaves or their derivatives, or of Indian hemp or peyote. A medical examination by a physi-

cian designated by the applicant, or by a U. S. Public Health Service medical officer, is required. Should the report of this medical examination indicate the applicant is an addict, the Surgeon General addresses a letter to him authorizing his admission any time within 4 weeks of the date of the letter. He cannot be confined without his consent. At the present time there are no accommodations for women patients, but it is anticipated that such accommodations will be available early in 1940.—*Pub. H. Reports*.

#### LIMITATIONS OF SPECTACLES

Current fallacious opinions of laymen are: (1) That, regardless of age, eyes vary in refraction from year to year and should, therefore, be examined periodically; (2) that nearsighted persons must wear their glasses constantly to keep from becoming more myopic; (3) that the principal cause of myopia is continued close work or reading.

Symptoms recur in hyperopia, not because of a change in the refractive error, but because, after a time, the eyes require a lens more closely approximating full correction.

The patient should be told that he, himself, is the best judge of the length of time his glasses are useful. A student, who reads daily for long periods and must have efficient eyes, may require a second examination at the end of two years; whereas a housewife, who greatly dislikes glasses and is indifferent to an occasional headache, may delay returning for re-examination as long as 10 years.

Hyperopia increases and myopia decreases each year from birth until the end of the seventh year; after the eighth year hyperopia decreases toward emmetropia. At about the 20th year, both myopia and hyperopia tend to become stationary.

There is no evidence that the course of progressive myopia with retinal atrophy, myopic conus, or halo, or even the course of simple myopia, is over checked or altered by glasses. Most myopic patients can be assured of useful vision all their lives. In the majority of cases of myopia glasses not be worn if clear distant vision is not essential.

Glasses are to be regarded as aids to increase vision, as in myopia, or to relieve ciliary fatigue. They are not curative.—*Clin. Med. and Surg.*

#### MEDICINE AND THE LAW

Prejudice has arisen against the testimony of the physician, when he appears as an expert. I think this may be traced to the great divergence between the opinions of experts in mental diseases. When the physician and the lawyer speak of insanity they do not speak of the same thing. With the physician and psychologist, mental derangement may be entirely unconnected with any doctrine of responsibility. The psychopathic personality, which expresses itself in criminality, is the very embodiment of irresponsibility to the physician. And yet, in law, we hold him responsible.

I believe that in a great majority of cases difference of opinion between medical men arise from the same reason that differences arise between other experts. *Lawyers are proverbially in disagreement*, not only as to the meaning of decisions and such differences are easily explainable when we consider how laws are enacted, enforced and interpreted.—*Minn. Med.*

#### COLD REMEDIES

In the files of the State Department of Health were found listed 235 proprietary preparations which, on their labels, claimed to be effective treatments for colds. As in the case of headache remedies, the drug most frequently used in these cold remedies was acetanilid or one of its derivatives. Tabulating the analyses of the preparations labeled as treatments for colds into three ten-year periods, it was found that in the first decade, 1907-1917, 36% of the preparations contained this drug. In



the second decade, 1918-1927, inclusive, 24% of such preparations contained acetanilid. In the third decade, 1928-1938, the percentage of such remedies containing acetanilid had risen to 49.

The next most important ingredients found in the so-called cold cures were laxative drugs, such as aloes and other plant material having laxative effect. In the period 1907-1917, 22% of the remedies contained aloes. In the second decade, 1918-1927, inclusive 19% carried laxative ingredients. In the third decade 1928-1938, 50% were laxative in character.

Quinine and its salts appeared in quite a number of the cold remedies as an important ingredient. In the decade 1907-1917 14% of the cold remedies contained cinchona salts. In the period, 1918-1927, inclusive, only 2% contained quinine. In the decade 1928-1938, the percentage of such remedies containing quinine had risen to 35.

Morphine is found, to some extent, in the so-called cold cures, but its use is decreasing. It was found in 19% of cold remedies in the decade 1907-1917, while in the period 1917-1927, only 7% of the cold remedies contained this drug. In the decade 1928-1938, proprietary cold remedies containing morphine dropped to 2%.

Quite a number of the products offered as cold remedies are in the form of salves and ointments. These products were found to contain ammonia, menthol, thymol, turpentine, alcohol, oil of mustard, capsicum and eucalyptus.

Acetanilid depresses the heart and lessens the oxygen carrying power of the blood. Its indiscriminate use is dangerous. Laxatives, of course, have their uses, but are injurious to the health when taken to excess. Quinine is a protoplasm poison, affecting protozoa more than bacteria. It is somewhat irritating to the stomach and intestines and, when absorbed, may cause ringing in the ears. Moderate doses produce no marked effect, except in those allergic to that drug. Morphine is used chiefly as an analgesic in severe or acute pain, but even here its use should be very guarded, chiefly on account of the great danger of the formation of the morphine habit. Habituation to morphine is easily established and most difficult to cure. As for the ointments and salves, they may all have certain value as counter irritants, but no one of them can, in any real sense, be characterized as a cure for a cold.

The whole truth of the matter is that medical science has so far been unable to find a specific cure for the common cold. While the cold is definitely recognized as a communicable disease and it is generally agreed that the cause is a germ, leading scientists are far from being a unit as to the kind of germ which is the causative agent. Numerous types of germs have been identified with colds, but so far the most careful and exhaustive microscopic studies have failed to find any particular germ common to all colds.—*Kentucky Bull. Dept. of Health.*

## IMMUNIZATION PROCEDURES

### 1. THE COMMON COLD

A. *Test*: None. B. *Active Immunity*: No active immune principle of any proven value has been described. C. *Passive Immunity*: None.

### II. DIPHTHERIA

A. *Test*: The Schick test: Inject intradermally 0.1 cc. of diphtheria toxin diluted in saline. Some manufacturers put the same test dose of toxin in 0.2 cc. of saline. The use of readily diluted toxin for the Schick test is fairly common and sufficiently accurate for general clinical use. Read the test in from 48 to 72 hours. An area of redness of .5 ch. in diameter or more denotes a positive test and susceptibility. Pseudo reactions should be noted. These are an indication of an acquired sensitivity to the proteins of the diphtheria bacilli

and occur mostly among children who have been immunized.

B. *Active Immunity*: Three types of material are used for active immunization against diphtheria: (1) toxin antitoxin—for individuals over 10 years of age, injected subcutaneously in doses of 0.5 cc., 1 cc. at weekly intervals; (2) diphtheria toxoid or (3) alum precipitated toxoid for children under 10 years of age—each toxoid material to be injected in doses of 0.3 cc., 1 cc. and 1 cc. at *weekly or longer intervals*. Variations of these doses have been used if reactions follow the initial injection. All of these materials will immunize, although it may take as long as a year for a Schick test to become negative after the use of toxin antitoxin as compared to a month following injections of toxoid. One dose of alum precipitated toxoid does not immunize an individual as was originally thought.

Always do a Schick test within 6 months after immunization to determine whether immunity is present. Do not immunize before 9 months of age.

### C. *Passive Immunity.*

1. *Treatment*: The bulk in which the dosage of diphtheria antitoxin is contained is now so small that it need not be considered. It is no longer necessary to remember the dosage by age, weight, etc. The important thing is to know how long the Patient has been ill and to appreciate the severity of the disease. If it is mild or moderately severe, from 20,000 units to 40,000 units of antitoxin are given intramuscularly. If the patient is seriously ill, from 40,000 units to 80,000 units of antitoxin may be given intravenously or intramuscularly. If the pulse pressure has fallen, the antitoxin should be given intravenously. If the case is one of diphtheria gravis, from 80,000 units to 200,000 units may be necessary. Some members of the Committee feel that there is no difference in the results obtained with the use of 40,000 units or 200,000 units of antitoxin. It should be stated, however, that in order to neutralize diphtheria gravis toxin a much greater number of antitoxin units is needed than is necessary to neutralize Parke #8 strain toxin from which our antitoxin is made. Watch for immediate accelerated and later serum reactions.

2. *Exposures* may be given from 1,000 units to 2,000 units of antitoxin intramuscularly. It is felt that exposures should not be given antitoxin except under exceptional circumstances or in country practice where the patient sometimes cannot be seen regularly.

### III. EPIDEMIC ENCEPHALITIS

A. *Test*: None. B. *Active Immunity*: None. C. *Passive Immunity*—1. *Treatment*: From 50 cc. to 75 cc. of convalescent serum has been injected as a passive immune principle but there is no evidence that it is of any value. 2. *Exposures*: There is nothing of proven value.

### IV. ERYSIPELAS

A. *Test*: None. B. *Active Immunity*: A vaccine has been recommended for those who repeatedly contract the disease. It is not practical and there is no evidence that it has any value.

C. *Passive Immunity*—1. *Treatment*: Erysipelas antitoxin has been used as a passive immune principle, but there is no conclusive evidence that it aborts, lessens the attacks or stops the spread of the disease. There is no evidence that convalescent serum will be of any value in this disease. Sulfanilamide has been recommended. The object here is to maintain a proper concentration of the drug in the blood stream—about 5-10 mgm. per cent. The dose for the first day is about 1 grain to the pound, half of which is given as soon as possible and the other half spaced over the next 24 hours. For the next 2 days the dose is one-half grain to the pound divided over 24 hours. Continue this sustaining dose if necessary. Watch for cyanosis, morbilliform eruptions, vomiting temperature rise, etc. After 300-400 grains have been given to extra cautious and watch carefully for symptoms. This drug

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should not be used in the cases where severe liver disease is present and with caution where severe kidney damage exists. 2. *Exposures*: There is no specific therapy.

#### V. EPIDEMIC MENINGITIS

A. *Test*: None. B. *Active Immunity*: None. C. *Passive Immunity—Treatment*: Specific antisera, specific antitoxins and sulfanilamide have been recommended. (1) Where antisera are used, it is often preferred to give the patient massive doses for two days and then gradually to discontinue therapy. One contagious disease hospital injects the patients intrathecally twice a day, giving from 10 cc. to 30 cc. of serum each time. The patient is also injected intravenously or intramuscularly three times a day and given from 30 cc. to 90 cc. of serum each time. Thus, 10 treatments will be given in 48 hours and the total number of treatments tapered off gradually,—omitting one intrathecal injection the third day, an intravenous or intramuscular treatment the fourth day, and so on. When intrathecal injections are made, the amount of serum introduced is always about 5 cc. less than that amount withdrawn by spinal tap after the pressure has become normal. Never exert pressure when injecting serum intrathecally. (2) Where antitoxin is used, one contagious disease hospital gives a continuous slow intravenous drip of from 100,000 units to 150,000 units of antitoxin in 1,000 cc. saline to which 1 cc. of 1:1,000 adrenalin has been added. The spinal fluid findings and the condition of the patient determine whether further therapy is indicated. (3) Sulfanilamide has been used as outlined under ERYSIPELAS. The drug has also been given intraspinally, although some members of the Committee feel that ingestion of the drug is sufficient. (4) The practice in most contagious disease hospitals is to combine either antitoxin or antiserum with sulfanilamide. *Note*: Watch for relapses. Do not treat serum sickness for a relapse. The treatment as outlined above may be varied to suit the circumstances.

(Continued in next issue)

### BOOK NOTES

THE TRAFFIC IN HEALTH. By Charles Solomon, M.D., Assistant Clinical Professor of Medicine, Long Island College of Medicine. Pp. 393, including index and table of contents; cloth: New York: Navarre Publishing Co., Inc.

This book is a comprehensive volume which would serve well as reference and source material for anyone concerned with advising or writing on the patent medicine racket in America. Many of the facts contained in the work were obtained from the American Medical Association, and couched in such language that the whole thing reads like a fascinating novel. The author evidently did a lot of work in preparing this piece. It is unfortunate that this work will probably not attain very wide circulation. It isn't very fashionable to lay ghosts or stick pins in kiddies' balloons. And the author lays about him in rather lusty fashion with a great big old-fashioned hat pin. The reasonable man will find this work highly entertaining but he doesn't particularly need the knowledge contained therein. The fellow who does need the guidance of this author will doubtless never see the book. However, we hope that the publishers are not thereby discouraged.—S.

SURGICAL PATHOLOGY OF THE MOUTH AND JAWS. By Arthur E. Hertzler, M.D., Professor of Surgery, University of Kansas. Illustrations, 206; pp. 248, including index; cloth: Philadelphia: J. B. Lippincott.

This book ends Dr. Hertzler's ten volumes of surgical pathology. No attempt is made to outline treatment, and wisely so, because newer treatments are advanced from time to time out-dating a book very rapidly. With the excellent short descriptions and the unusually fine illustrations shown in this text it would seem that the book should be valuable as a reference work for many, many years with no danger of becoming obsolete. Various lesions of the mouth and jaws, both benign and mal-

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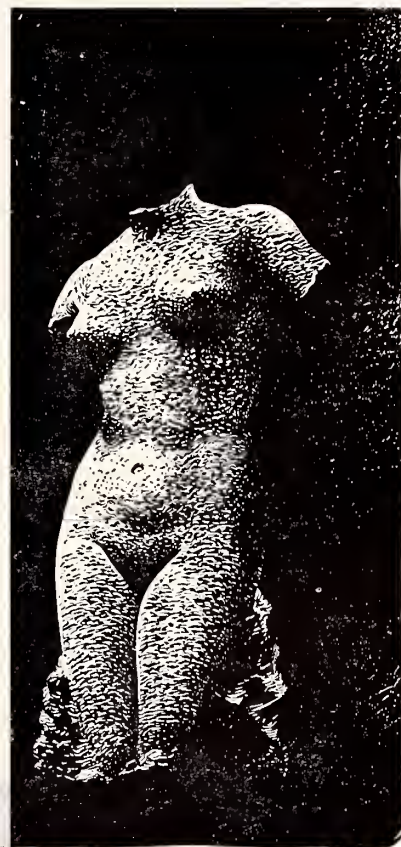
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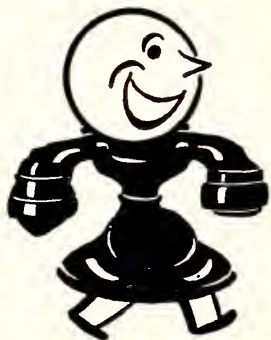
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ignant, are dealt with according to a very complete outline form. It is difficult to understand how a physician who must deal with the head and neck could afford to be without this book. The reviewer had occasion to consult it for help in diagnosing two tumors of the tongue on the very day of the book's arrival.—S.

TWENTY-SEVENTH REPORT OF THE HENRY PHIPPS INSTITUTE. For the study, treatment and prevention of tuberculosis. 1936-1937. University of Pennsylvania. Published by the Henry Phipps Institute, Philadelphia, Pa., 1937.

It is to be regretted that this volume cannot be released under a more appealing title for in truth, it represents the workings of a Tuberculosis Laboratory, wherein experiments in every phase of this disease are being conducted daily. As Dr. Esmond R. Long, Director of the Institute, so ably states in his foreword, it is an "inventory of accomplishment", in which the results of these experiments have been tabulated over a period of five years (1933-1937).

Amazing to the reader will be the vast amount of work carried on in the Institute, and the careful and complete methods utilized in attaining results. The purpose in founding the Henry Phipps Institute was to establish a place for research and to provide the means by which the work might be carried on, consequently the text of this report is to reveal what has actually been accomplished. The information and statistics contained in this book are not based on mere supposition, nor are they the expression of personal opinions; they are the results of actual demonstrations and represent weeks, months, and even years of intent work on the part of the Institute's medical staff, whose members are outstanding men in this particular field of medicine.

Although the large clinic of the Henry Phipps Institute is primarily obligated to the care of the tuberculous sick in the section of Philadelphia in which the Institute operates, in the course of routine practice the Clinic's staff has taken advantage of its unusual opportunity to advance knowledge as to the nature and spread of the disease. Because of the social make-up of that particular section of the city, the clinical staff is enabled to study at first hand the part played by racial, environmental, economic, and other factors in the severity of tuberculosis, and much of the research of the Institute is devoted to this field of inquiry. However, there is hardly any phase of the general problem of tuberculosis that is not being investigated by the Institute. Following is a brief outline of the research which has been conducted during the period of this report:

1. Racial Variations in Tuberculosis—with special emphasis on the comparative study of the incidence and types of tuberculosis in the White and Negro races.
2. Technic of Collapse Therapy—including the development and improvement of instruments for intrapleural pneumolysis.
3. The Significance of the Blood Sedimentation Test.

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Whether his desire be casual perusal or intent study, the tuberculosis specialist cannot help but be interested in this book, for the information contained therein is scientifically correct and, therefore, of practical value.—R. B. H. Sr.

MARIHUANA, AMERICA'S NEW DRUG PROBLEM. By Robert R. Walton, Professor of Pharmacology, School of Medicine, University of Mississippi, with a foreword by E. M. K. Geiling, Professor of Pharmacology, University of Chicago, and a chapter by Frank R. Gomila, Commissioner of Public Safety, New Orleans, and M. C. Gomila Lambou, Assistant City Chemist, Philadelphia; J. B. Lippincott Company, 1938. Price \$3.00.

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FINKELMAN, I. AND SHAPIRO, L. B.: Benzedrine Sulfate and Atropine in Treatment of Chronic Encephalitis—*J. A. M. A.*, 109:344, July 31, 1937.

DAVIS, P. L. AND STEWART, W. B.: The Use of Benzedrine Sulfate in Postencephalitic Parkinsonism, *J. A. M. A.*, 110:1890, June 4, 1938.

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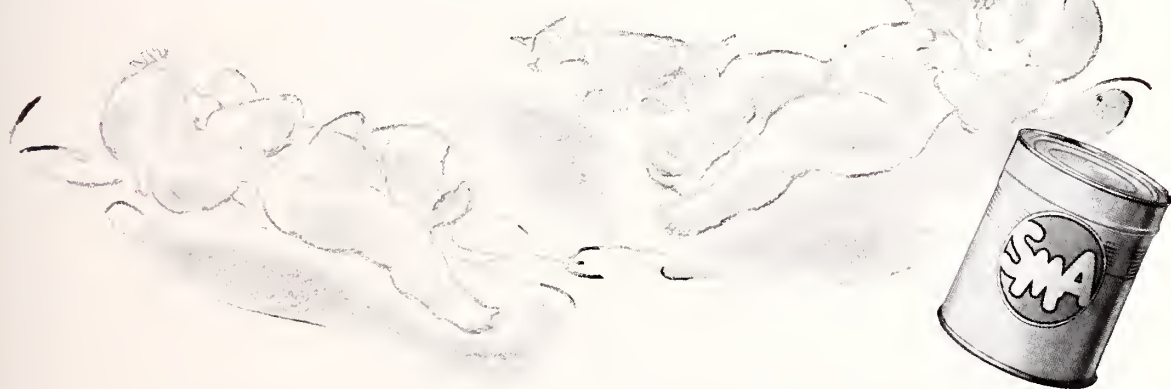
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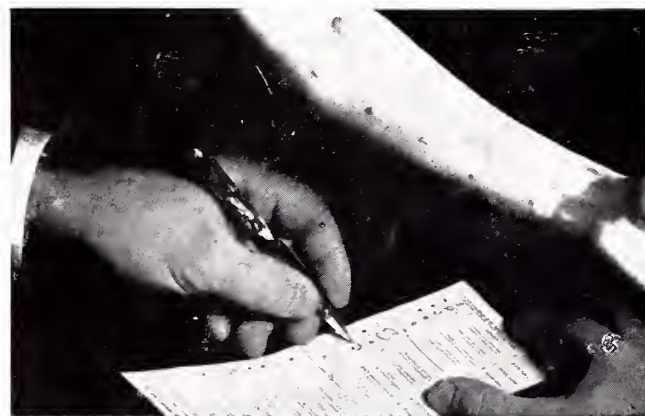
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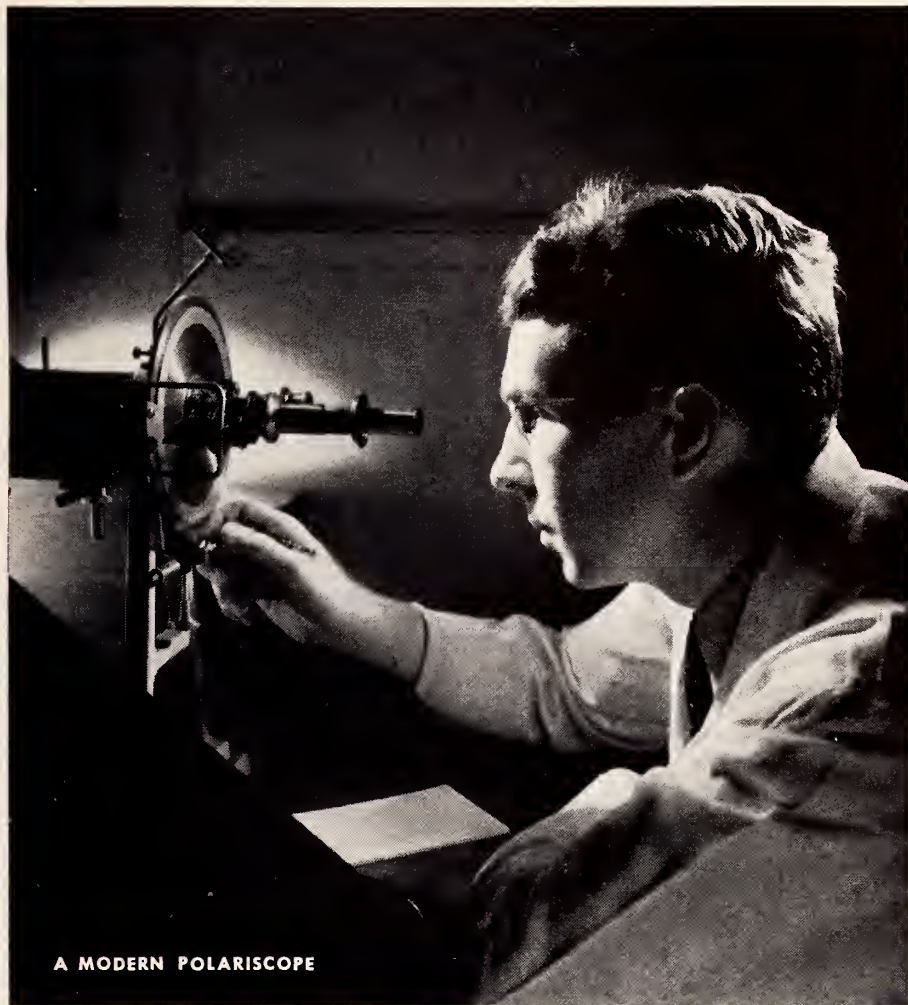
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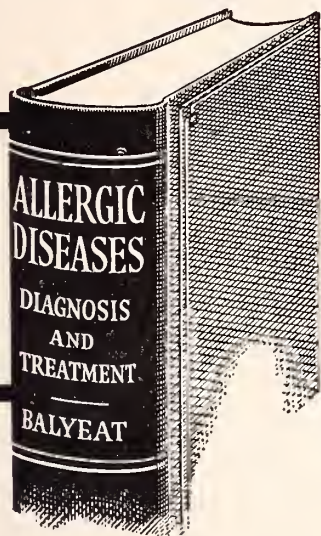
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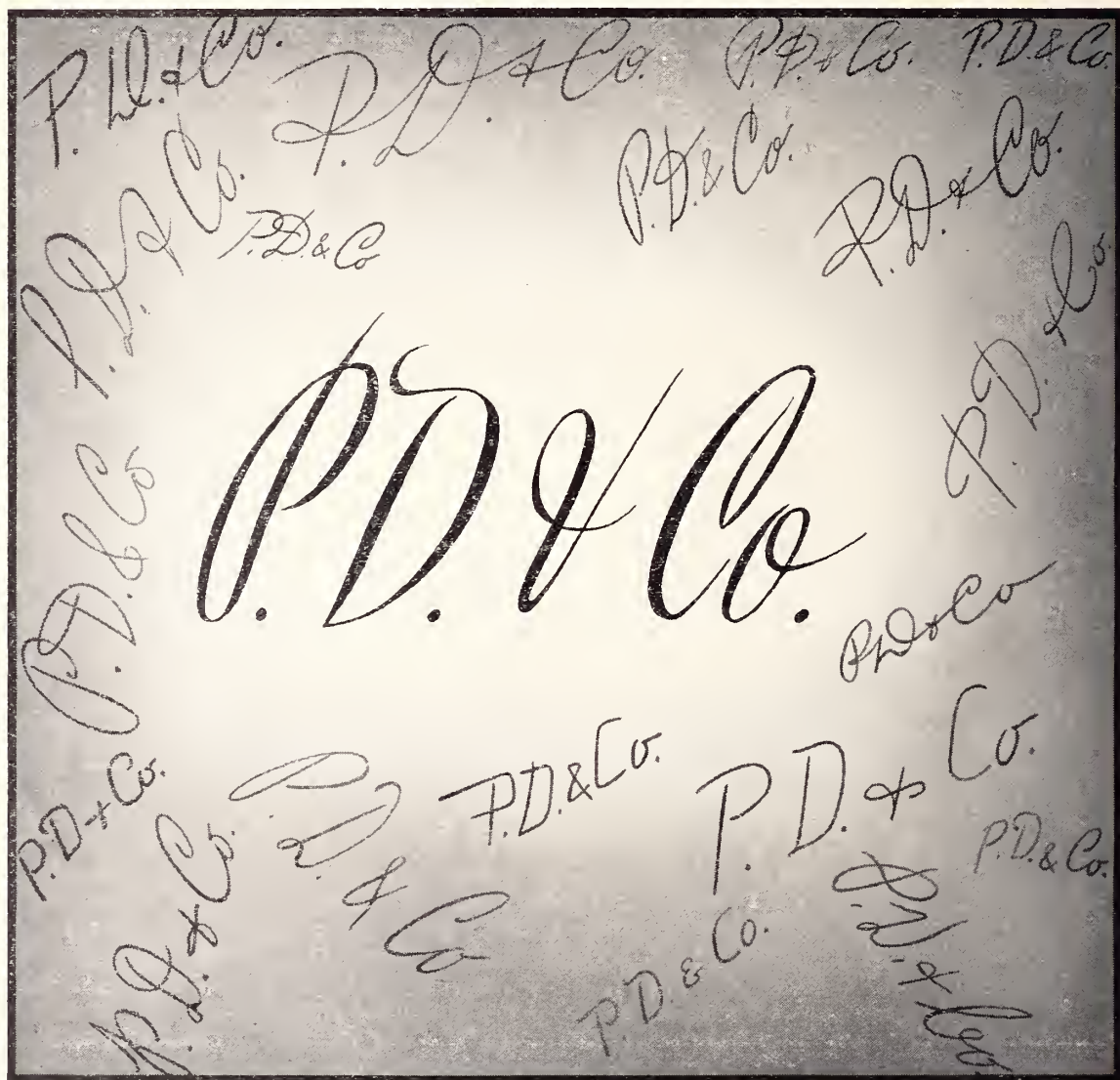
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- (1) 1937. Am. J. Digestive Diseases  
Nutr. 4, 240.  
(2)a. 1933 J. Am. Diet. Assn. 9, 295.  
b. 1934. J. Nutrition 8, 449.

- (2)c. 1936. Ibid. 12, 405.  
d. 1936. J. Am. Diet. Assn. 12, 231.  
(3) 1932. J. Pediatrics 1, 749.  
(4) 1938. Am. J. Diseases Children 55, 1158.

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VOL. XXIII

EL PASO, TEXAS, APRIL, 1939

No. 4

## Looking Forward\*

CHARLES S. SMITH, M. D.  
*Nogales, Arizona.*

I want to take this opportunity, the first afforded to express to the membership of the Arizona State Medical Association my sincere thanks for the great honor you have conferred upon me. I realize that with this honor there is associated a great duty and grave responsibilities. I want to measure up to the fullest extent of my ability to your expectations in an orderly and complete fulfillment of the duties imposed upon me as your president. I assure you that it is indeed a rare privilege befalling any president of this Association to know and work with its members in a common and worthy cause for the betterment of our profession and for the benefit of the people, it is our privilege to serve. I shall strive to emulate past officials and realize that any success achieved must be dependent upon your assistance, advice, encouragement, and your constant activities in behalf of organized medicine.

I was born on a Friday, the 13th day of one of the warmest months of the year, and I am assuming the duties of president of this Association on the 13th day of the month. Oft-times during my life I have found myself in hot water, therefore, it is nothing new to me to now find myself in the warmest spot the medical profession has ever had to endure. During my tenure of office and ever-after, I promise to remain in the fight and I hope you will join hands and lend your cooperation. I have never, and I believe you feel likewise, had very much interest in the annual presidential address. I have always felt, and especially so this year, that the time allotted for this address could be utilized to a much better advantage. However, adhering to the customary procedure, I shall attempt to burden you but a short time with my thoughts. In so doing I want to digress somewhat from the usual type of presidential address and discuss with you certain topics which I feel are of practical importance. I am reminded of what Abraham Lincoln had to say on August 22, 1862: "I shall strive to correct errors where shown to be errors, and I shall adopt new views as fast as they appear to be true views." In this respect I shall endeavor to emulate Lincoln, and in so doing, I hope to bring you something of a constructive nature. I want to assure you that I am highly desirous of making my year in YOUR service one of

a practical business administration. Above all things, I would have you know that this is YOUR Association, and I am only YOUR servant, and I want to serve as you would have me serve. This is NOT a ONE man organization, and I am not here to endeavor to accomplish the things in which I am personally interested—I am here to try and do the things you want me to do.

### MEMBERSHIP

Based on 1938 figures, our Association now has a membership of 350 members. We are growing in numerical strength, and with this continued growth, our fighting interest should be aroused in an endeavor to develop our Association into the BEST in the country; we should make an analysis of our Association, or if you prefer, take inventory, know our exact status, improve on the good things and discard those things which are not valuable and of practical importance. No one should resent honest criticism. Perfection is like a glistening castle at the highest point of a lofty peak. It is approached one step at a time, with everything well done or every word well spoken marking the completion of part of the journey. With this thought in mind, let us for a moment consider some things which might be improved upon and made more nearly perfect in our Association.

### SUGGESTIONS

1. I feel the time is opportune for us to devise the necessary measures whereby we may defray the expenses of our guest-speakers. Those of us who have served on the scientific program committee know quite well that you desire the best talent available, and we also know that it is indeed embarrassing to be compelled to say to our invited guests: "we would like to have you with us, but we have no funds with which to defray your expenses." If we are to continue to have the best guest-speakers available, then let us provide funds to defray part or all of their expenses.

2. In the appointment of committees who serve without remuneration, I feel it is advisable to make selections with care and due regard to locality and activity. As an example, the program committee should consist of members residing in the county in which the annual meeting is to be held. This will eliminate much unnecessary time, expense, worry and duplication of effort. What applies to the committee mentioned, likewise applies to cer-

\*Presidential address, annual session, Arizona State Medical Association, Phoenix, April 13-15, 1939.



tain other committees. Most important of all is the appointment of men who will SERVE. It is far better to decline an appointment than to accept and then fail to do YOUR duty.

3. I believe it should be the duty of the president-elect to visit each of the component societies of the State annually, several months in advance of the annual meeting, meet the profession, discuss our problems, ascertain our needs, then consolidate all constructive recommendations and present same for your consideration. Dr. C. R. Swackhamer and Dr. J. D. Hamer are to be commended for the good work they accomplished along this line, however I feel sure they did not go where they were not invited.

4. Our increased growth and the vastly increasing activities should cause us to begin to think about a full-time executive secretary. Dr. Harbridge is not going to be with us always, nor do we anticipate his early departure; he has served us faithfully and efficiently, and we are indeed most grateful for his untiring efforts and devotion to our cause, nevertheless, the thought is well to keep in mind for future consideration.

5. The profession, I feel sure, does not fully realize and appreciate the vast amount of work and the great responsibility placed upon the Industrial Relations and Industrial Advisory Committees. These two committees devote considerable time, assume their travel and hotel expenses, devoting considerable time to the protection of our interests and they deserve the full support of the profession in Arizona.

6. The Arizona State Board of Medical Examiners. It is the duty of those holding membership on the Board to see that the laws governing the practice of medicine in Arizona are rigidly enforced, and it is our duty to see that the Board fulfills its duty. The Board needs our cooperation, and likewise, we need the cooperation of the Board in order that its activities may be much more effective. Being a member of the Board, I believe I may truthfully say that it is difficult to "see ourselves as others see us" and to judge the results of our efforts, but I can assure you that we are doing everything possible to advance medical education and to stabilize the requirements for the practice of medicine. We have assumed the responsibilities of determining fitness to practice medicine and of enforcing regulatory measures. We are the controlling force in admission to practice in Arizona, and after the license is granted, it is highly important that the highest standards of medical practice be maintained and violators effectively penalized. I believe the Board of Medical Examiners should be allotted space in the BULLETIN and also, if necessary, in SOUTHWESTERN MEDICINE, and be requested to keep us fully informed of its activities.

7. The time has arrived when we need more than ever before the cooperation of every friend of organized medicine, and I personally feel we should take a more active interest in and encourage activities of the Women's Auxiliary. We must

give recognition to this valuable ally by giving it representation in the Council of the Association, with privilege of vote, if necessary. This organization can be of tremendous benefit to us at this particular time.

8. I am in favor of making an assessment of \$5.00—the annual registration fee—against each member of the Association at the time the annual dues are paid. This will give the host-society ample funds—minus all financial worries, to plan for our annual meeting. Should there be a surplus, then it may be utilized to a good advantage in more ways than one. This suggestion may conflict with our by-laws. If so, then make the necessary changes.

9. I believe in presenting to the executive committee, at least quarterly, a more "detailed" and comprehensive report of our expenses and financial affairs, than we have had in the past.

10. The journal of SOUTHWESTERN MEDICINE. The editor of this publication is to be congratulated for his splendid efforts put forth in behalf of the profession. We have in Arizona, an associate editor, Dr. J. D. Hamer. Every one knows how anxious he is to cooperate with the profession of Arizona, and if you will glance through the issues of SOUTHWESTERN MEDICINE for the past year, you can readily see that Dr. Hamer has had but very little cooperation in editing the Arizona section of SOUTHWESTERN MEDICINE. He is entitled to our whole-hearted cooperation, and if he does not get it, then it's no reflection on Dr. Hamer's ability—it's a reflection on the officers of the component societies who are responsible for the submitting of papers news items, election results, etc., for publication. We all know there is ample room for COOPERATION; your officials need it, and unless it is forthcoming from each of us, then we as individuals must assume the responsibility.

11. Public Relations Committee. I consider this as being one of our most important committees, and I feel its members should be congratulated for their recent activities in behalf of organized medicine. Physicians have double work to do at the present time in educating the laity as to the evils of controlled medical practice and allied fallacies because so many physicians have played the sluggard in this regard for so long a time. An intensified public relations campaign explaining medicine and its works to the laity is needed. It may be an eleventh hour remedy but it's worth trying before the great and gullible American public is sold completely and irretrievably "down the river" of Socialized Medicine. The use of competent outside help are useful and necessary factors in any public education campaign, but they are of secondary importance. The principal part must be played by members of the medical profession. The result will depend pretty largely on how well we do the job. Let us have a well-organized speaker's service all over the state; let us call this committee, if you please, the "Information Committee" and hold it responsible for all publicity; we should let the pub-

lic know that we have always been the first to attempt to protect the public welfare; that most of the publicity regarding this issue has been of a biased nature; that organized medicine is willing to cooperate in any and all ways, if given the opportunity, and to improve medical care for indigent and low income groups; that we feel that we should be given the opportunity to plan, supervise and manage any "sickness insurance" plan; that we are opposed to the regimentation of medical practice by politicians or other lay bodies; that our present health program has been launched on a sound, helpful AMERICAN course and should be kept on that course, and that the desire of the country is not Socialized Medicine, but AMERICANIZED medicine. This can all be accomplished through the constant activities of the Public Relations Committee.

12. Graduate Medical Education. Based on information which I have been able to obtain, it is my understanding that a survey will be made shortly in Arizona by the Council on Medical Education and Hospitals of the American Medical Association. Located, geographically, as we are, and being noted as a "health-resort-state" we should sponsor such a program. Most of our members are financially unable to visit the great medical centers as often as they would like in order to obtain adequate post-graduate instruction. Through cooperation and a little effort on our part this work can be brought to our own door. There is adequate proof reported by more than half of the states now participating in this program that it is proving of estimable value. The "Refresher" courses which have recently been given in Arizona are proving of interest and we should cooperate with the sponsors. These courses are only the stepping stone to Graduate Medical Education, and we should lend our full cooperation toward bringing this to an actual accomplishment within our boundaries.

13. Let us consider the activities of the State Board of Health. Personally, I do not feel that the State Board of Health has for the past two years cooperated properly with the medical profession of Arizona. Would you improve the health of our State? Do you favor a plan to conserve our human resources? If you do, then the first step is to strengthen the State Health department. This was the foremost recommendation which the Technical Committee on Medical care presented to the National Health Conference last summer. It means we should strengthen our present loose methods into a sturdy basic structure to promote health. Just what is a health department to the population which it exists to serve? What is it to YOU? Is it a name on a door at the City Hall or State House? Is it a group of functionaries performing academic tasks that have nothing to do with you and your family? Is it an office of rules and regulations existing solely to slap quarantine on houses from which contagion may spread? Some health departments are in truth no more than one or the other of these. Many are considerably less. Theoretically, however, a health department is respon-

sible for the health of a community as much as the head of a family is responsible for the health of his household. This member of the municipal structure protects your environment. It is the duty of the health department to strengthen the population inwardly, both as individuals and en masse, against disease. This cannot be accomplished with a Superintendent of Public Health who is not in sympathy with organized medicine, nor one who constantly succors quacks, nor one who plays politics to his heart's content. We must have as the head of our health department a full-time physician with the proper credentials of training, etc. We are ready and willing to put into the hands of our health department all of the excellent preventive and curative weapons we possess, but we expect and demand 100 per cent cooperation from our State and City health departments.

14. The American Medical Association. Progress is not automatic. The world grows better because there are high-minded souls, who wish that it should, and because they will and dare to take the right steps to make it better. This is what the American Medical Association has been doing for years and is continuing to do for the benefit of the medical profession and those it is our pleasure to serve. I want to commend the American Medical Association for its present method of incorporating in *The Journal* its many articles dealing with economics and other new features—instead of presenting these features in special bulletins. The American Medical Association officials face a tremendous task in dealing with the functions of a profession so great in number and responsibilities. To say that it is performing most admirably its very great duty would be putting it very mildly.

15. Socialized, National Compulsory Health Insurance, Federalized, State, or Politicalized Medicine—or call it whatever you may. I will leave this subject to better and more capable hands for discussion. You know just as much about the subject as I do, but it might be well to state that in analyzing our own studies of medical care there may be certain local inadequacies and certain inequalities, and we welcome the concern shown in the endeavor to solve these problems, and I am confident that our committee on Medical Economics will present at this meeting a workable plan for the care of the indigent and low-income group. The medical profession would be the last to deny the existence of medical needs in the United States. To plans which would benefit the people we serve, we offer our whole-hearted and unselfish support, and we will oppose unsound doctrines which would eventually lower the standards of medical service to that found in other countries, where the physician is made subservient to political control.

#### COMMENT

Regardless of what may come it is well to remember that if the Government cannot administer medicine any better than it administers its various bureaus; if it indulges in waste in medicine as it indulges in the administration of its various



functions; if it has as little regard for ability in its physicians as it has in its servants, I fear the health of America would be in serious jeopardy. We are asked to turn from the system of private practice to some form of Socialized or State medicine; to follow the lead of Germany and England. We crossed the ocean once to get away from the lead

of European countries, and by adopting different customs and ways, built here the greatest civilization in history. By means of a calm and dispassionate marshalling of facts, let us redouble our efforts to convince the public that Socialized Medicine is "dehumanized" and "poor-house" medicine.

Gebler Bldg.

## Addison's Disease, with Report of Case Successfully Treated Through Three Critical Periods

MACK M. GREEN, M. D.\*  
El Paso, Texas

**T**HOMAS Addison, of Guy's Hospital, London, was the first to recognize this condition, hence the name "Addison's Disease." His monograph published in 1855, "The Constitutional and Local Effects on Disease of the Supra-renal Capsules," shows clearly that he truly understood this condition and that he was well versed in the art of inspection. This monograph can also be classed as modern because so little has been added to our clinical and pathological knowledge of this disease since his writings of eighty-three years ago.

### REPORT OF CASE

O. O., American, white male, now aged 41, beneficiary of the Veterans' Administration, was first diagnosed and treated for Addison's Disease in the fall of 1934 at Fitzsimons General Hospital, Denver, Colorado. His personal and family history have no bearing on present illness. Prior to about 1928 he considered himself to be in excellent health.

He served for four months during the World War, August 18 to December 18, 1918. He did not go overseas and was discharged from the service without disability. For the most part after his discharge until 1933 he worked with his father in a bottling works in a small New Mexico town. In 1928 or early 1929 he noted that for some reason or other he sometimes had periods of unexplained weakness. After a little rest he would feel all right and could resume his work. These spells of fatigue, as he called them, kept on and upon reporting to his family physician, no cause was found for them.

For the next three years or more he worked less and less. He found that longer rest periods were needed and even fairly long periods of rest in bed were necessary in order to carry on with any part of his work. He learned, too, that he seemed to feel better if he ate more than the usual amount of salt. He therefore took a considerable quantity of salt and liked it in buttermilk.

In 1933 he moved to Colorado seeking further health aid but to no avail. Further examinations by doctors gave no added information other than that his trouble was thought probably to be due to pulmonary tuberculosis and more rest was advised. There was no cough, however, and this diagnosis was presumably made on the evidence of weight loss and the general weakness. The x-ray findings were not confirmatory of active pulmonary tuberculosis.

In the fall of 1934 his condition became serious and in October he was admitted under the Veterans' Administration to Fitzsimons General Hospital, Denver, Colorado. The condition had progressed so far then that a second stage of Addison's Disease was readily recognized. There was a gen-

eralized bronzing of the skin, marked asthenia, low blood pressure and gastro-intestinal disturbances with nausea and vomiting. An x-ray of the adrenals showed bilateral calcification.

Treatment with cortical hormone, 1 cc. daily, (Eschatin being used), was given from Oct. 31 to Nov. 19. Marked and immediate improvement was noted. The gastro-intestinal upsets were soon controlled and the blood pressure was increased. Injections thereafter were less frequent. In early December, 1934, he was discharged to home treatment with written instructions referable to the use of the hormone or Eschatin.

Under home treatment and under the care of his wife he did well until January, 1936. He carried on the use of Eschatin but not as regularly as was advised. The excessive cost of the hormone made the regular use almost prohibitive. He also continued to use large quantities of salt.

In February, 1936, he began to slip rapidly and on February 21st, was admitted to William Beaumont General Hospital in the third stage of Addison's Disease, or in the state of crisis.

Immediate examination showed him to be critically ill. There was marked gastro-intestinal disturbance with nausea, vomiting, diarrhoea, tenderness over the entire abdomen and persistent hiccoughs which had been present for two days. Blood pressure was 56/35 and dehydration was almost to the stage of acidosis. The heart sounds could barely be heard with the aid of the stethoscope and the pulse at the radials was imperceptible. There was also a generalized bronzing of the skin, which at that time was of a very dark hue.

1000 c.c. of normal saline with 10% glucose was given soon after his admission and was repeated two and three times daily for several days. The cortical hormone was given intravenously in large doses just as soon as obtainable. For more than one week 18 to 20 c.c. daily was given at a cost of approximately \$6.00 per day. As soon as the crisis was passed smaller doses of the hormone were used and at the time of discharge 10 min. every other day intramuscularly was given.

There was no doubt in our mind as to the benefits of the hormone. We are sure that we would not have been able to come through the crisis without it. After the crisis large quantities of sodium chloride were given by mouth giving from 3 to 6 grams per day in capsules and as much as he could take in his food and buttermilk.

He was kept in the hospital until May 7th. He had gained several pounds in weight and blood pressure reached 110/76. We noted that under treatment a gradual change in the color of the skin occurred, with improvement in the darker hue, which changed to a lighter color.

At the time of discharge detailed instructions were given his wife as to future treatment. Periodic

\*Major, Medical Corps, U. S. Army.

examinations at the hospital or some Veterans' Facility were urged. A card at Christmas time in 1936 stated he was doing well but no further word was had until he was again admitted to the hospital September 11, 1938.

During the first two weeks of this second period of hospitalization there was apparent improvement. A diet low in potassium was given and sodium chloride pushed to as high as 14 grams per day. Eschatin 1 c.c. daily was given intramuscularly. At the end of two weeks he suddenly went into a crisis for no apparent reason at all. The Eschatin was increased to 20 c.c. per day, saline 1000 to 1500 c.c. daily by vein was administered, but with no improvement.

Another hormone was then used and slight improvement noted. A hypertonic saline solution was also decided upon and for three days 500 to 1000 c.c. of 5% saline was given by vein. This produced a severe headache each time but marked improvement otherwise was noted and after three days the nausea, vomiting and abdominal tenderness were relieved. The new cortical hormone was continued and by October 15th the patient was able to be up and about the ward. At the time of discharge Oct. 21, 2 c.c. of the cortical hormone per day was given. Some 13 or 14 pounds in weight loss was had during this last crisis, the weight dropping to 120 pounds.

On September 19th, or 8 days after admission, the blood chlorides were 412, phosphorus 2.8; and cholesterol 136. On October 10th, the chlorides were down to 355. X-ray of the adrenals showed calcification.

Upon reporting to the Outpatient Service of the hospital on December 20th for examination his blood pressure was found to be 112/76 and weight 135 pounds. His general condition was considered as fair. He was still taking 2 c.c. of the cortical hormone daily.

#### DISCUSSION

Addison<sup>1</sup> described this disease which bears his name as being characterized by "general languor and debility, feebleness of the heart action, irritability of the stomach, and a peculiar change in the color of the skin, occurring in connection with a diseased condition of the supra-renal capsules." He further stated that the skin presents a "dingy or smoky appearance or various shades of deep amber or chestnut brown and that this singular discoloration usually increases with the advance of the disease; the anemia, languor, failure of the appetite and feebleness of the heart become aggravated; a darkish streak usually appears on the commissure of the lips; the body wastes but without the emaciation and dry, harsh condition of the surface so commonly observed in ordinary malignant diseases; the pulse becomes smaller and weaker, and without any special complaints of pain or uneasiness the patient at length gradually sinks and expires."

This is indeed a wonderful description given by Addison. He did not have the benefit of the blood pressure apparatus, but he noted that the pulse was "soft and compressible."

Not wishing to detract in any way from this description as given by Addison, but perhaps adding a little of the modern phraseology, we might say that this disease is characterized by muscular and vascular asthenia along with frequent gastro-in-

testinal upsets. It is insidious in its onset with an unexplained muscular weakness and disinclination for exertion. This weakness is described as being both physical and psychic; that is, the patient not only lacks energy but also may lose interest in everything. The memory is sometimes enfeebled, insomnia is quite common, but there may be alternate periods of great drowsiness. When this weakness is well advanced the patient lies almost in a stupor, unable apparently to move, speak or eat. Digestive symptoms such as gaseous distention, gaseous eructations, abdominal tenderness, pain, constipation or diarrhoea, nausea, vomiting, etc., are commonly noted. The pigmentation comes on gradually, the skin may take on a dirty yellowish tint, changing slowly to a light brown, then deep brown on into a deep black. Some cases have been noted as blue or bluish green in tint. This pigmentation may be diffuse, although the areas exposed to pressure are usually darker. A low blood pressure is always found and often reaches a critical level earlier in the disease than is sometimes supposed.

This group of symptoms may be divided into three stages. First, the stage of unexplained weakness. Second, the typical clinical syndrome so easily diagnosed. Third, the stage of exhaustion or collapse in which nausea, vomiting and dehydration toxemia dominate the picture. Asthenia digestive disturbances and the melanoderma are listed as the diagnostic triad.

#### ETIOLOGY

The exact cause is not known. Tuberculosis of the gland has been listed as one of the principal factors even since Addison's time. Various reports have been compiled from autopsy records and these vary from 55% to 90% insofar as tuberculosis is concerned. Of 75 cases<sup>2</sup> examined by three different investigators, 62 cases or 82.6% showed tuberculosis of the gland. Rountree<sup>2</sup> therefore seems justified in saying, "The remote cause, insofar as a practical point of view is concerned, is bilateral tuberculosis of the gland in 80 to 90% of the cases; and to atrophy of unexplained origin in 10 to 20% of the cases. The intermediate cause is deficiency of the cortical hormone which appears after about four-fifths of the gland substance has been destroyed by pathological processes." It has been pointed out, however, that this explanation did not take into consideration the possibility that the fault or causative factor might be due to a degenerative change in the chromaffin system as a whole.

Snell<sup>3</sup> in 1935 stated that lesions of the supra-renal gland encountered at autopsy recently showed tuberculosis on the decrease and atrophy of the gland on the increase. He cited 30 cases in which 17 showed atrophy and 13 tuberculosis.

Boyd<sup>1</sup> in his 1935 text, "Pathology of Internal Diseases," states: "We know as much of the cause of the disease as Addison did and no more." Boyd also calls attention to the fact that renal tuberculosis seldom involves the adrenals and never is the cause of Addison's Disease.



## INCIDENCE

Osler<sup>1</sup> stated the disease was rare. Only 17 cases were seen in the United States in 21 years. Roundtree<sup>2</sup> in Cecil's latest text of medicine states, "that of 100,000 admissions to the Mayo Clinic, only 16 cases are seen." It is seen almost twice as frequently in males and is more frequent between the ages of 30 and 50 years. Werner<sup>3</sup> estimates that between 300 and 400 cases are now reported annually in the United States and gives the death rate at about 0.4 per 100,000.

Although Addison's Disease is readily diagnosed in its second stage, its earlier picture is not so clear cut. Hemachomatosis or bronzed diabetes (one case of which, with the pathological findings, was presented to the members of the El Paso County Medical Society four years ago), may offer a confusing picture at the onset. Pellegra, Grave's Disease, melanosisarcoma, xerodermapigmentosa, ochronosis and Van Recklinhausen's disease may also have to be considered.

An attempt at differential diagnosis is out of order here, but a word of warning to the wary. Any case of unexplained muscular weakness with a low blood pressure deserves careful study. An x-ray of the chest should be made for evidence of pulmonary tuberculosis, along with x-rays of the adrenals for evidence of calcification; and a close examination of the skin should be made for evidence of pigmentation. Blood chloride determination and basal rates are also of value.

It now seems next in order to ask something about the function of the supra-renal glands since the etiological factor or factors are apparently contained therein. However, since it is now generally agreed that only the cortical portion of the gland is involved in Addison's Disease, we shall limit our discussion mainly to this portion. Such a discussion of course takes us rapidly into the highly specialized fields of endocrinology and biochemistry and the opinions of men qualified to give them must of necessity be used freely.

It has been said that, "The function of the adrenal cortex is a mystery" and insofar as I know this statement still holds true. It has been suggested by some investigators that the adrenal cortex may regulate the carbohydrate metabolism.

Swingle<sup>4</sup> at one time was brave enough to intimate that he had a feeling that the primary function of the adrenal cortex was to regulate blood volume.

Loeb<sup>5</sup> said, "That until the cortical hormones are available in large amounts, the function of the adrenal cortex will remain shrouded in mystery and confusion."

Thus far we have said nothing other than, "No one knows." It is known, however, that if as much as four-fifths of the cortical portion becomes involved in a diseased process in man that Addison's Disease follows. It is also known that if the cortices are extirpated in experimental animals, death will follow unless sufficient amounts of the hormone are thereafter administered. As far back as

1865 Brown-Sequard reported that removal of both adrenal glands in animals caused death in 24 hours. Kendall<sup>6</sup> writing recently said, "The function of the adrenal cortex has been obscure because no one has been able to show what chemical change was involved and therefore it was impossible to determine what other factors influence this change. Recently it has been shown that cortin is concerned with the distribution and excretion of sodium and potassium and that rats fed on cortin excrete as much as ten times as much potassium as those not fed."

Loeb<sup>5</sup> and his co-workers in 1933 also observed that dogs with adrenal insufficiency excreted excessive amounts of sodium and chloride in the urine. He further suggested that the crisis in Addison's Disease might be provoked by a similar loss of electrolytes. Wilder,<sup>10</sup> Kendall, Kepler, Rynearson and Adams observed that the administration of potassium to patients with Addison's Disease provoked the excretion of chloride and sodium and thereby precipitated a state of crisis. Therefore, a diet low in potassium was advocated.

Maronon and Collazo<sup>11</sup> attributed the dehydration in Addison's Disease to a disturbance of the equilibrium between potassium and sodium of the plasma and believed that one of the functions of the cortical hormone was the maintenance of this relation. Someone else suggested that the toxicity of potassium and its action on muscle fiber explained the asthenia in Addison's Disease.

In October, 1927 Rogoff and Stewart<sup>12</sup> and Hartman<sup>13</sup> and his co-workers independently published that they had produced extracts of the adrenal cortex which would definitely prolong the lives of adrenalectomized dogs and cats. In 1929 Swingle and Pfiffner<sup>14</sup> prepared an extract of the cortex of beef adrenals by means of organic solvents. With these experimental findings thus noted in animals the use of the hormone in humans with Addison's Disease was soon forthcoming.

Earlier reports were perhaps over-enthusiastic and tended toward the miraculous; retrenchments and retractions have thus become necessary but not entirely to the point of pessimism. Stewart and Rogoff have called their extract "interrenalin" while Swingle and Pfiffner designated their product as "cortical hormone." This latter extract is now on the market under the trade name "Eschatin." Hartman and his co-workers designated their extract as cortin."

Little has thus far been said in defense of the adrenals other than to say that the cortex contains the hormone of life-giving value. Within recent years much blame has been put on the adrenals for causing this or that condition. Such a wide variety as excessive hairiness in the female, virilism in the male, gastric ulcer, epilepsy, hyperthyroidism, arterial hypertension and spontaneous gangrene have been blamed on the adrenals. Space is too limited here to discuss the perhaps too popular operation of bilateral denervation of the adrenals, but suffice it to say such an operation is definitely contraindicated in Addison's Disease.

## TREATMENT

Just as in pulmonary tuberculosis, where the treatment was limited to hygiene and rest prior to the advent of the x-ray and collapse therapy, so with Addison's Disease prior to the use of cortical hormone and low potassium diet, the treatment was symptomatic. Stewart believes that great harm came out of the idea that epinephrine was the real hormone of the adrenals and emphasizes that the medullary portion of the gland has little function, at least insofar as Addison's Disease is concerned. He cites as proof those cases coming to autopsy for some other reason, in which the medullary portion of one or both glands was involved in some tumor growth, yet no symptoms of same were present prior to death.

Thus with the original idea that the medullary portion of the gland was all important, with the advent of epinephrine, it was logical that epinephrine should be advocated in the treatment of Addison's Disease. Dr. Muirhead, who suffered from Addison's Disease, was treated at the Mayo Clinic in 1920 with epinephrine and thereafter the Muirhead treatment was in vogue. For several years this, plus the use of rest and certain variations in diet, was about the only treatment used.

This treatment can perhaps be best described by saying that it consisted in giving the patient epinephrine solution to the point of toxicity and giving it in as many ways as possible. Dr. Snell of the Mayo Clinic in 1929 was still of the opinion that this treatment was the best advocated up to that time. The use of epinephrine in large doses did increase the blood pressure, but only temporarily.

With more study and closer supervision the cortical hormone came more into use and now some ten years after its discovery, data is available in several comparatively large groups of cases.

Hartman<sup>15</sup> and his co-workers reported 23 cases by 1932 treated with cortin. One cc. of this extract contained the product of 40 grams of cortex. Rogoff<sup>16</sup> in reporting his 20 cases in 1932 and using interrenalin, advocated 4 to 8 doses per day by mouth and stated this amount corresponded to about two beef glands and five sheep glands.

Roundtree and Barker in using Eschatin showed a rather wide variation as to the amount used. No matter what product is used the cost becomes almost prohibitive and especially in the periods of crisis, when such large quantities of the hormone are necessary. At the present cost of these products, as much as \$10 to \$12 worth per day may need to be used for several days. No set standard has been given as to the amount necessary and each case seems to be a rule unto itself.

One of the puzzling questions has been why cortical hormone in excess dosage does not produce toxic effects such as insulin, thyroxin, epinephrine and parathormone produce. The patient seems to tolerate almost any amount. In those cases under control and doing well perhaps 1 c.c. given daily is sufficient. Even short intervals without the drug may be advocated. It must be remembered, however, that this is a disease in which remissions and

relapses or crises are common and occur for no reason seemingly at all. During these crises, 5 c.c. to 30 c.c. per day are needed. Some of these products are now listed as to number of units of cortin present.

Wilder<sup>10</sup> and his co-workers at the Mayo Clinic deduced that the limiting of the intake of potassium might influence the course of Addison's Disease, thus for some time now a diet poor in potassium has been advocated. Their results have been reported as good and others now are carrying out this same plan. I believe that they are now able to carry on their treatment of Addison cases in most instances without the use of cortical hormone.

All these cases show a low blood chloride and many of them have done well on a diet high in salt or sodium chloride given in capsules. One to seven grams may be given daily. When these patients are in a crisis and continuing vomiting persists, intravenous injections of glucose and saline are quite beneficial. At the Mayo Clinic the following are kept on hand for emergency use in their cases of adrenal insufficiency and given when needed: 1000 c.c. of sterile solution containing 50 grams of dextrose, 10 grams of sodium chloride, 5 grams of sodium citrate and 20 c.c. of active preparation of cortical extract. We have used sodium chloride in 5% strength and give 1000 c.c. This produces a severe headache but shows definite beneficial effects some six to eight hours later. Frequent gastric lavages are quite helpful to the comfort of the patient during crises.

## CONCLUSIONS

1. A case of Addison's Disease has been presented which has been successfully treated through three critical periods during the past 6 years.
2. It is believed this case has had Addison's Disease for at least 10 years.
3. Permanent relief or cure of this disease still seems doubtful.
4. The etiological factor in Addison's Disease is still unknown. Tuberculosis of the glands seems to play an important role.
5. The exact function of the adrenal cortex is not known.
6. Addison's Disease is believed to be due to some lack of function in the cortical portion of the gland, and not the medulla.
7. The use of cortical hormone is advocated, especially in periods of crises.
8. A diet poor in potassium is proving to be beneficial.
9. The blood chloride is lowered, therefore must be supplied.

Wm. Beaumont General Hospital.

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## Collapse Therapy in Tuberculosis

VICTOR STRONG RANDOLPH, M. D.

*Phoenix, Arizona*

**C**OLLAPSE therapy is so necessary in the treatment of tuberculosis that no one nowadays can undertake to advise and follow a case without knowing at least some phases of it. At the present time there is probably no physician who is treating tuberculosis from a strictly medical standpoint, with the exception of those who are purely consultants.

One who is engaged in active treatment of tuberculosis will follow the old and proven procedure of putting his patients to bed. However, in a large percentage of his patients he will soon decide to use the simplest form of lung collapse, artificial pneumothorax. This method of collapsing the diseased lung was first introduced into this country by the surgeon, John B. Murphy, but has gradually come to be used by medical men everywhere, and properly so. I feel that artificial pneumothorax should be attempted in every patient who shows cavitation in one lung or in both lungs provided the degree of involvement is not so great as to have reduced the vital capacity below the limit needed for life. It is remarkable how little visible lung space as shown by the x-ray is necessary to maintain life. In addition to those patients who have cavities artificial pneumothorax should be considered as treatment for the patient who fails to improve after a reasonable time in bed. I should not delay more than two or three months before starting pneumothorax even in a patient without cavities, who did not show definite improvement. Some men consider that pneumothorax should be used in every case, even those with minimal tuberculosis. Certainly it is true that we have in pneumothorax a method of healing the lung so thoroughly that often it is impossible to tell on x-ray films made after the lung has been re-expanded which of the two lungs had been collapsed. Artificial pneumothorax, even when complete and uncomplicated, has failures, but these are exceedingly rare.

### PHRENIC NERVE SURGERY

Some men who are adept in the treatment of tuberculosis prefer as the first step a phrenic nerve operation to pneumothorax, particularly in a patient with a one-sided tuberculosis who has not a cavity, but who does not improve on bed rest. My own preference is for pneumothorax for the reason that paralysis of the diaphragm is a passive mode of treatment and for the reason that it takes some time to determine whether the paralysis will succeed in curing the disease. If it does not succeed then pneumothorax must be used. This is an active method of treatment and I would prefer using it first rather than withholding it. Adhesions may

form and prevent pneumothorax if it is withheld too long. In case artificial pneumothorax is entirely unsuccessful because of the presence of diffuse adhesions about the lung and inability to get air into the chest, the phrenic nerve operation is advisable in a unilateral case without delay. The phrenic nerve and accessory nerves which may be present should be crushed rather than cut or removed. A few years ago we removed many nerves and I am sure we did harm by destroying permanently the function of the diaphragm. This is particularly true in patients whose principal disease is in the upper part of the lung. Some of these patients at least will fail to recover from use of the phrenic paralysis alone and will later need thoracoplasty. If the disease is limited to the upper part of the chest collapse of the diseased area by a partial thoracoplasty may be successful, but the remainder of the patient's lung will be of little use to him unless he has the function of the diaphragm. However, if the patient's disease is predominant in the lower part of the lung it may be that a permanent paralysis of the diaphragm will be advisable. It is perhaps advisable first, however, to crush the nerve. This allows the paralysis to recover after an interval of six to eight or ten months as a rule, and crushing may be done again at that time, or a permanent paralysis established by cutting the nerve or removing it. The nerve may be crushed more than once if desired. We have occasionally seen remarkable closure of cavities in the upper part of the lung following removal of the nerve. But in most of these cases I believe that cavity has recurred after a lapse of one to three or four years. Occasionally paralysis of the diaphragm may be useful in association with artificial pneumothorax. I have used it in some patients who had disease of the lower lung, successfully and Dr. Phillips has reported that some patients who had incomplete pneumothorax because of pleural adhesions secured closure of their cavities when we had done a phrenic nerve operation.

### PNEUMOTHORAX

We come to pneumothorax again. Matson, in a large series of pneumothorax cases has estimated that about 20 per cent of the patients had diffuse adhesions, permitting no air to be put into the pleural cavity. About two-fifths he found to be relatively free of adhesions. In about two-fifths of the cases he found that adhesions prevented sufficient collapse of the lung to permit closure of the cavity. In at least one-third of these cases with adhesions successful pneumothorax may be established by the cutting of adhesions. Adhesions may be cut

with cautery or with galvanocautery, either by opening the chest and working under direct vision or by the intrapleural closed method of Jacobaeus. In my opinion the latter method is safer and causes the patient less discomfort. The number operated by the open method so far has not been large, but in the hands of several operators has been successful. In my own cases and in numerous series that I have reviewed the percentage of successful closed operations has been about 70. It is advisable to look into every chest that offers any possibility of cutting the adhesions. In determining the operability of a case we cannot depend entirely on the x-ray picture of the chest. These do not clearly show the extent of adhesions. Many small adhesions which are present do not appear on the x-ray film. On the other hand, occasionally the x-ray films may cause an adhesion to appear too large to operate upon when, as a matter of fact, on inspection it is found to be readily cut. For such inspection of the chest the closed method is preferable. In many cases we have cut adhesions in both sides of the chest when we were carrying on a bilateral artificial pneumothorax. This operation is indispensable in collapsing both sides of the chest, for it allows us to bring about a collapse of the affected parts of both lungs and avoids the necessity of collapsing more of the lung than is involved in the disease process.

#### THORACOPLASTY

If pneumothorax is impossible because of adhesions, and the patient does not improve on bed rest and the use of paralysis of the diaphragm, we must consider collapse of the lung by means of removal of the ribs. This is always true when large cavities are present and should not be deferred when the cavities present are small. Occasionally a patient with very small scattered cavities must be submitted to thoracoplasty. A few years ago the majority of patients we saw were obliged to have practically all of the ribs removed because of extensive disease. In recent years we are seeing patients for thoracoplasty at an earlier stage in the disease. The majority have upper lobe lesions. These patients can be treated with partial thoracoplasty, usually the removal of five to seven ribs, and a portion of the lung can be saved for future use. Upper thoracoplasty may be done on both sides of the chest. I have two patients at least in whom a four-rib thoracoplasty has closed the cavity. Unfortunately, a mere section of ribs is not sufficient. We have found that each case must be carefully studied and all the rib structure enclosing or encroaching on cavity or cavities or diseased lung must be removed. In addition we must in many cases take also transverse processes of the spine and the costal cartilages. The diseased lung has a remarkable property of collapse by atelectasis. It is held firmly to the ribs by pleural adhesions. When the ribs are removed the chest wall is allowed to fall in. The lung contracts and small cavities are closed. If cavities are large the walls may be composed of rather stiff fibrous tissue and these cavities may need external pressure after the ribs have been re-

moved in order to bring about closure. In many of our cases a few years ago, after the removal of ribs cut at the spine, we found that a cavity at the apex would contract into the neighborhood of the upper mediastinum. Here it was protected by the transverse processes of the spine and no pressure would close it. Therefore, it is customary now in a case of large cavities to remove a portion of the spine and also to carry the rib resection toward the front as far as the border of the sternum. In this way the maximum collapse is obtained.

Even with this complete removal of ribs we sometimes see a remnant of cavity remaining at the edge of the mediastinum. To combat this failure operators are now freeing the lung entirely from the apical attachments at the time of operation and so collapsing it from the apex downward. The lung is attached at the apex to the spine and, through the periosteum of the first and second ribs, to the scalenus muscles. These prevent the very top of the lung from collapsing downward at the time of thoracoplasty. The effect then of removal of the ribs is to permit an inward, horizontal collapse. By freeing the lung it is possible to obtain also a downward, vertical collapse of the apex of the lung as low as the fourth or fifth vertebrae. When this is successfully done residual mediastinal cavities are prevented. This particular operation is dangerous because the lung must be stripped not only from the attachments at the apex but must be separated from the mediastinum and there are large vessels which can be perforated. One operator of wide experience told me recently that he felt this procedure was too dangerous. However, others have told me they think it can be done with care. It is my opinion that this particular procedure is of great value and will be found to produce more uniformly good results in thoracoplasty operations than we have had heretofore.

Thoracoplasty is of course, a serious operation, but with modern methods of handling patients, the percentage of operative mortality has been reduced very much. I believe we can safely say that the risk is no greater than that of a major abdominal operation where the surgeon often has also to deal with a patient in subnormal condition.

The chief safety factor perhaps is the ability that has been gained to estimate a patient's condition for operation and the needed preoperative care or treatment and the proper postoperative care. Not less important is the estimation of how much one may do at a given operation. It was customary as late as four or five years ago to cut five or six ribs at one operation. The patient nearly always went into shock. At the present time we take two or three and never more than four ribs, and even as little as one rib. The next safety factor is the spacing of successive operations. In other years we did not dare wait more than two or three weeks usually between operations because of the fact that the periosteum would have time to regenerate and form new bone, which would prevent the maximum desired collapse if these new bones were not removed.



It has been found possible by treating the periosteum at the time of operation with formalin or with some other chemical, or by using actual cautery, to prevent the regeneration of ribs, and the operations can be spaced farther apart so that the patient can have opportunity to recover from one operation before another is undertaken. If the apex is fully freed as previously suggested it is customary to remove the periosteum together with the intercostal bundles and this allows one to wait as long as may be required before going ahead. The selection of cases for operation is of course important, but unfortunately the thoracic surgeon cannot refuse operation to the patient whose condition cannot be otherwise improved, if, as is often the case, it is the only means through which some relief may be afforded.

#### OTHER METHODS OF COLLAPSE

Some other procedures than those discussed have been used as lung collapse measures. Cutting the scalene muscles or scaleniotomy allows the first and second ribs to fall downward and compress somewhat the apex of the lung. This may conceivably close a small apical cavity without resorting to thoracoplasty. Section of all or most of the intercostal nerves to stop motion of the chest wall has been used in a few cases and is of some value in preparing the patient for thoracoplasty. Extrapleural freeing of the lung from the ribs, collapse of the diseased lung by manual pressure and insertion of a pack extrapleurally to keep the lung collapsed may occasionally be of value in my experience. This method had a very wide vogue some

years ago because of the fact that it was less dangerous than thoracoplasty. However, our experience has shown that the final results from use of the extrapleural pack are not comparable in any way to thoracoplasty.

In one case cavity drainage was useful in preparing a patient during some months for thoracoplasty.

An operation not as yet of general use is that of lobectomy or pneumonectomy. This is never the operation of choice because the wound and pleura always become infected with tubercle bacilli which will be difficult to control. Thoracoplasty must be performed subsequently, in many cases at least, and unless some form of overcoming the infection is discovered this operation will not be generally favored. Lobectomy and pneumonectomy have been performed less often for tuberculosis than for carcinoma.

#### SUMMARY

Collapse therapy in tuberculosis may not be limited to any one procedure. Each patient is an individual case and must be treated according to the indications which present themselves. One form of collapse may be indicated first, then other forms may be used as the case progresses until the active tuberculous tissue has been collapsed. When this has been accomplished by mechanical means the patient is not yet well, but must continue under medical observation until nature has been able finally to heal the affected areas.

Professional Bldg.

## Effect of Phrenicectomy on Digestion

ROBERT E. LYONS, M.D.

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IT IS a well-known fact that phrenicectomy is sometimes followed by gastrointestinal disturbances. Although the series presented is small, it serves to point out the definite gastrointestinal symptoms following paralysis of the hemidiaphragm and what may be subjectively expected from the patient. Although these symptoms are unimportant in relation to the importance of the tuberculous lesion, I feel that, in view of the occasional severe disturbances to digestion produced, that one should tend to be more conservative when deciding between temporary and permanent paralysis of the hemidiaphragm.

Series of observations have been made by Ehrenburg, Guns and Graham concerning the relation of cardiospasm, anatomical rearrangement of abdominal viscera and other roentgenological changes following phrenicectomy. My interest is mainly in the subjective manifestations and their relation to right and left-sided paralysis of the diaphragm. I have taken twenty-three successive cases of phrenicectomy and evaluated symptoms relating to the gastrointestinal tract, before and after surgery. Of the twenty-three there were twelve left-sided "phrenics"

and eleven right-sided. Patients were questioned about anorexia, nausea, vomiting, constipation, gas formation, abdominal pain, belching and defecation difficulty.

Of the eleven right-sided phrenicectomies eight reported no change in the state of digestion after three months. Of the twelve left-sided phrenicectomies, nine, or 75%, reported that some variation was noted. Thus, it seems, that subjective gastrointestinal complaints are more apt to follow left-sided phrenicectomies than right-sided.

#### EVALUATION OF SYMPTOMS

Anorexia—Appetite is an important factor in treatment of the tuberculous patient because the general well-being and resistance of the patient largely depends upon amount of diet taken. Of the eleven patients who had right-sided phrenics, three reported that their appetite before operation was much better than after. In two of these patients anorexia was enough of a problem that they failed to gain further weight, after all efforts to stimulate their appetite were exhausted. Of the left-sided phrenics, an interesting bit of knowledge was gleaned. Four patients reported that they noticed

*Official Program*



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1. Registration headquarters will be El Rancho Hotel. Every member, visitor and guest is requested to register promptly on arrival. The registration fee is \$5.00, which entitles the holder to all entertainment, smoker and banquet.

2. All papers or addresses read before the Society shall be confined to thirty minutes. Opening discussions are limited to five minutes and general discussions to three minutes each. No one shall discuss the same subject more than once without special permission.

3. Papers read before the scientific sessions shall become exclusive property of the Society and shall be deposited with the secretary for publication in the official organ of the Society (Southwestern Medicine).

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Registration ..... Lobby of El Rancho Hotel  
Scientific Sessions ..... Main Dining Room

### THURSDAY, MAY 11, 1939

#### Morning Session

El Rancho Hotel, 8:30 A. M.

1. Meeting of the Council.

9:00 A. M.

1. Registration
2. Meeting of the House of Delegates.

10:00 A. M.

1. Address of Welcome ..... Hon. John E. Miles  
Governor of New Mexico
2. Introduction of President .... Dr. E. W. Fiske, Santa Fe
3. President's Address .... Dr. George T. Colvard, Deming
4. Dr. R. W. Lamson ..... Los Angeles, Calif.  
"Allergy and Pseudo-Allergy in General Practice."
5. Dr. Philip Corr ..... Riverside, Calif.  
"The Management of Diabetes."

#### Twelve O'Clock Luncheon

El Rancho Hotel

Pioneer Room

Round Table Discussion on Obstetrics conducted by Dr. H. J. Goubeaud.

#### Afternoon Session

El Rancho Hotel, 2:00 P. M.

1. Dr. Benjamin H. Orndoff ..... Chicago, Ill.  
"Early Changes in the Endometrium, Diagnosis and Management."
2. Dr. H. J. Goubeaud ..... Brooklyn, N. Y.  
"Ruptured Uterus."
3. Dr. Jack G. Hutton ..... Denver, Colo.  
"The Diagnosis of Syphilis."
4. Dr. Nelson Paul Anderson ..... Los Angeles, Calif.  
"The More Common Skin Diseases."
5. Dr. Ralph M. Stuck ..... Denver, Colo.  
"Spinal Injuries with Nerve Damage."

### THURSDAY EVENING

El Navajo Hotel, 7:00 P. M.

Buffet Dinner and Smoker

### FRIDAY, MAY 12, 1939

#### Morning Session

El Rancho Hotel, 9:00 A. M.

1. Dr. R. Russell Best ..... Omaha, Nebr.  
"The Physiological Biliary Flush as an Aid in the Management of Biliary Tract Disease."
2. Dr. George Kent ..... Denver, Colo.  
"The Proper Management of Surgical Lesions of the Biliary Tract."
3. Dr. E. Payne Palmer ..... Phoenix, Ariz.  
"Suspicious Cancer Symptoms."
4. Dr. Harold Lincoln Thompson ..... Los Angeles, Calif.  
"The Surgical Treatment of Peptic Ulcer."
5. Dr. Paul J. Connor ..... Denver, Colo.  
"Objective Signs in the Diagnosis of Endocrinopathies."

#### Twelve O'Clock Luncheon

El Rancho Hotel

Pioneer Room

Round Table Discussion on Thyroid from the Fetus-in-Utero Through Adolescence conducted by Dr. Paul J. Connor.

1:15 P. M.

Meeting of the House of Delegates and Election of Officers.

#### Afternoon Session

El Rancho Hotel, 2:00 P. M.

1. Dr. Howard F. West ..... Los Angeles, Calif.  
"Symptomatology and Etiology of Spontaneous Hypoglycemias."
2. Dr. Benjamin H. Orndoff ..... Chicago, Ill.  
"Electrosurgery and Radiotherapy for Breast Malignancy."
3. Dr. Oscar B. Nugent ..... Chicago, Ill.  
"Eye Conditions of Interest to the General Physician."
4. Dr. Frank Goodwin ..... El Paso, Texas  
"The Use of Bone Traction in Scoliosis."
5. Dr. J. Travis Bennett ..... El Paso, Texas  
"Common Feeding Difficulties in Pediatric Practice."

### FRIDAY EVENING

7:00 P. M.

Dinner Dance, El Rancho Hotel

### SATURDAY, MAY 13, 1939

#### Morning Session

El Rancho Hotel, 9:00 A. M.

1. Dr. William H. Daniel ..... Los Angeles, Calif.  
"Proctology for the General Practitioner."
2. Dr. Charles H. Arnold ..... Lincoln, Nebr.  
"Splanchnic and Brachial Block Anesthesia."
3. Dr. H. J. Goubeaud ..... Brooklyn, N. Y.  
"Ruptured Ectopic Pregnancy."
4. Dr. Philip Corr ..... Riverside, Calif.  
"The Anemias."
5. Dr. R. J. Lajoie ..... Los Angeles, Calif.  
"Angina Pectoris."
6. Report of House of Delegates.
7. Resolutions.

## GALLUP

### The Convention City

Gallup, New Mexico, is the geographical center of a colorful, romantic and thrilling country which affords a rich background for educational and romantic experiences. Within a radius of 300 miles there is easy access to 5 National Parks, 27 National Monuments, 23 Indian Reservations, and countless ruined dwellings of a prehistoric Indian culture. Within only a few hours from Gallup you may be in great canyons, in virgin timber, in desert sagebrush, or in snow above the timber line.

Gallup has a population of more than 6,000, with 4,000 more within a radius of 4 miles. Gallup is at an altitude of 6,528 feet, which affords a cool, bracing summer climate requiring at least one blanket each night.

Gallup, New Mexico, famous as "The Indian Capital," markets more than one-third of a million dollars worth of Indian products annually, more than any other American city. Gallup is the home of the famous Inter-Tribal Indian Ceremonial, which will occur this year August 17, 18, 19 and 20. During Ceremonial days and nights, 7,000 Indians of more than 30 tribes will dance, chant, indulge in weird pagan rites, compete in tribal sports, and exhibit 10,000 square feet of their finest handicrafts.

### HOTELS

El Rancho .....	Conventon Headquarters East of Town on Highway 66
El Navajo .....	Harvey Management 201 East 66th Avenue
Casa Linda Court .....	Excellent Motor Court East of Town on Highway 66

## GALLUP

### HOTEL RATES

#### El Rancho Hotel:

Room with connecting bath, single .....	\$2.50
Room with connecting bath, double .....	\$3.50
Room with private bath, single .....	\$3.00 to \$4.00
Room with private bath, double .....	\$4.00 to \$5.00
Room with private bath, twin beds .....	\$5.00 to \$8.00

#### New Addition:

Room without bath, single .....	\$1.50
Room without bath, double .....	\$2.50
Room without bath, twin beds .....	\$3.00
Room with connecting bath, single .....	\$2.00
Room with connecting bath, double .....	\$3.00
Room with private bath, single .....	\$2.50
Room with private bath, double .....	\$3.50
Room with private bath, twin beds .....	\$4.00 to \$5.00

#### El Navajo Hotel:

Room with bath, single .....	\$2.50
Room with bath, double .....	\$4.00
Room without bath, single .....	\$1.50
Room without bath, double .....	\$2.50
Room with bath, twin beds .....	\$5.00
Room without bath, twin beds .....	\$3.00

#### Casa Linda Court:

Room with bath, double .....	\$2.50 to \$3.50
Room with bath, twin beds.....	\$3.50 to \$4.50
Room with bath, four people .....	\$3.50 to \$5.00
Two connecting rooms with bath, four people ....	\$6.00

## ENTERTAINMENT

Entertainment will include a buffet dinner for the doctors and their ladies, Thursday at 7 P. M. Annual smoker with appropriate attractions on Thursday night at 8 P. M. at El Navajo Hotel, and a dinner dance at El Rancho Hotel on Friday evening. A reception, luncheon and a motor trip to one of the many local places of interest will be provided for the visiting ladies.

Headquarters for the meeting will be at the El Rancho Hotel. Commercial men with their exhibits will be there. Those attending the meeting are urged to make their hotel reservations early by applying directly to the hotel of choice.

### EXHIBITORS

A. S. Aloe Company.  
Southwestern Surgical Supply Company.  
Mead Johnson & Company.  
J. Durbin Surgical Supply Company.  
Westinghouse X-Ray Laboratories.  
Lederle Laboratories.  
General Electric X-Ray Company.  
Dr. E. Payne Palmer

### COMMITTEES

Dr. W. B. Cantrell, General Chairman

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Dr. D. F. Monaco  
Dr. P. L. Travers  
Dr. Vincent Accardi  
Dr. W. D. Anthony

#### Committee on Reception and Registration:

Dr. R. H. Pousma  
Dr. John F. Smith  
Dr. Vincent Accardi  
Dr. W. D. Anthony

#### Social and Entertainment Committee:

Dr. P. L. Travers  
Dr. H. T. Watson (Golf)  
Dr. W. D. Anthony

#### Finance Committee:

Dr. J. W. Stofer  
Dr. D. F. Monaco  
Dr. D. M. MacCormack  
Dr. W. D. Anthony

#### Properties:

Dr. E. B. Beaver  
Dr. D. F. Monaco  
Dr. W. D. Anthony

#### Registration:

Mrs. P. L. Travers

#### Transportation:

Mrs. D. F. Monaco  
Mrs. W. B. Cantrell  
Mrs. W. D. Anthony

#### Entertainment and Luncheon:

Mrs. D. M. MacCormack  
Mrs. H. T. Watson  
Mrs. E. B. Beaver



## OFFICERS

### NEW MEXICO MEDICAL SOCIETY

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## SUMMARY

### NEW MEXICO STATE MEETING 1939

1. Time .....	May 11, 12, 13
2. Place .....	El Rancho Hotel, Gallup
3. Scientific Papers .....	<b>22</b>
4. Round Table Luncheons .....	Thursday and Friday
5. Entertainment ..	Buffet Dinner, Smoker, Dinner Dance
6. Official Sessions..	Two Meetings of House of Delegates
7. Lay Speaker .....	Governor of New Mexico
8. Ladies' Entertainment .....	Dinner Dance, Reception, Sightseeing Trip, Luncheon, Buffet Dinner
9. Registration Fee.....	\$5.00 (covering all costs)

distinct improvement in appetite following operation, but five said that their appetite was worse. Three reported no change. No explanation of the marked improvement in appetite in these four patients is forthcoming.

**Nausea**—One right-sided phrenic reported that post-tussic nausea that existed preoperatively was lessened postoperatively, but this seemed in relation to diminution of cough and sputum resulting from the operation.

One left-sided phrenic suffered severely of nausea, post-tussic and post-cibal, after the operation.

**Vomiting**—The right-sided phrenic who reported decreased nausea also reported decreased morning post-tussic vomiting, apparently for the same reason.

In the left-sided group three patients who preoperatively made it a habit to vomit after cough vomited no more, postoperatively. One patient stated that he was bothered with post-tussic vomiting only since the operation.

**Belching Difficulty**—It is well known that belching of gas is a bad habit usually due to faulty eating habits with subsequent swallowing of air. A total of three patients in this group made a habit of belching. These three were given left-sided phrenicectomies and stated sincerely that thereafter they had difficulty in belching, having to make the effort more prolonged and then the expulsive force was much diminished. As one of the patients said, "I just can't make as much noise as I used to."

**Constipation and Defecation**—One patient who had had a right phrenic operation reported constipation and difficulty in expelling feces, postoperatively. Three patients with left-sided phrenics reported the same difficulty. All these patients reported that they could not get force behind their expulsive movements and after stool felt that some feces were retained.

**Gas**—By gas is meant a subjective complaint of sense of fullness and abdominal distension after eating. Three left phrenicectomies had more gas postoperatively and one left phrenicectomy had less. The right phrenicectomies noticed no difference.

**Others**—One patient who had had a right phrenicectomy developed hemorrhoids, postoperatively, but this was associated with constipation. I do not believe that this has ever been noted as a complication of phrenic nerve operations. No abdominal pain resulted.

### DISCUSSION

After paralysis of the hemidiaphragm with subsequent elevation it is only natural that abdominal viscera follow the rise of the diaphragm and come to lie in a different position than previously. On the right side of the liver precludes much displacement of the viscera, but the left side invites marked latitude in position change. It is known that left-sided phrenicectomies cause upward displacement of the stomach with the production of a large gas bubble and occasionally upward displacement of the colon. It has been thought that spasm of the cardiac end of the esophagus is relieved by cutting the phrenic

nerves. This might explain the improvement in appetite in four of our left-sided phrenicectomies. Angulation of the abdominal portion of the esophagus may explain the anorexia produced in five others.

Although dysphagia has been given as a complication of phrenicectomy in other reports, it was not observed in this series.

Again, may I urge conservatism in deciding between a permanent and temporary phrenic nerve operation. It might be better for the patient to have two or even three crushing operations than be a digestive cripple for life.

### CASE REPORT

J. C., a 29-year-old white male, came under my observation with left exudative and caseous pulmonary tuberculosis with cavitation. Onset of the symptoms was three weeks before, with hemoptysis, cough and sputum. His lesion was rather acute of pneumonic type, and because of continued hemoptysis artificial pneumothorax was attempted on the left, but a free pleural space was not found. After two weeks of absolute bed rest, with periods of moderate bleeding, the left phrenic nerve was extracted. One week postoperatively he complained that he had lost his appetite and felt bloated. He admitted that since the operation he had not moved his bowels satisfactorily in spite of taking large amounts of mineral oil nightly. Further questioning revealed that he was continually nauseated and had weak expulsive force when he attempted to move his bowels, which, therefore, resulted in inadequate bowel movement.

After eating he developed distension and would bloat up with "gas," but had difficulty in belching it. Cascara sagrada and mineral oil were given nightly with no change in the patient's condition. Rectal examination revealed the rectum full of soft feces. An oil retention enema was followed by a large frothy bowel movement. The patient's appetite decreased markedly and only by pushing milk and cream into the diet was he able to hold his weight.

Fluoroscopy, after barium meal, revealed elevation of the left hemidiaphragm with a large air bubble in the stomach. Fluoroscopy was otherwise normal. Barium enema revealed no abnormalities of the colon other than the splenic half of the transverse colon was elevated.

Three weeks postoperatively the patient was given a low-residue, low-carbohydrate diet. Milk and cream were given one-half hour postcibal. Tincture of belladonna and drams one of equal parts of calcium carbonate, sodium bicarbonate and magnesium oxide were given one-half hour before meals. This regime diminished the amount of distension and nausea, but had no effect on the appetite, constipation or fecal expulsive difficulty. Oil retention enemas had to be given every five days to keep the patient comfortable. Three months postoperatively the derangement of the gastrointestinal tract still existed with only partial relief afforded by medication and management.

### SUMMARY

1. Conservatism in phrenicectomy as to extraction or crushing is urged.
2. Left-sided phrenicectomies are followed by gastrointestinal changes in 75%, while right-sided phrenicectomies in only 27%.
3. Anorexia is occasionally relieved by left-sided phrenicectomies, but produced in more cases.
4. Most gastrointestinal disturbances following phrenicectomy can be explained on a mechanical basis.



# Peroral Endoscopy as an Aid in General Diagnosis and Treatment

M. P. SPEARMAN, M. D.

El Paso, Texas

and

W. E. VANDEVERE, M. D.

El Paso, Texas

MANY are aware of the dramatic usefulness of the bronchoscope and the esophagoscope in cases of emergency extractions of foreign bodies in the lungs and in the esophagus. For some time this emergency extraction of foreign bodies was the only use to which these instruments were put. Gradually this branch of medicine has grown to occupy a well-marked field of its own. So that many larger clinical centers now maintain full departments of bronchoscopy and esophagoscopy. These measures can be of high value to the practitioner in various fields of medicine who is confronted with certain difficult diagnostic problems. It would seem useful to discuss briefly the indications, contraindications and scope of usefulness of peroral endoscopy, which includes both bronchoscopy and esophagoscopy.

## BRONCHOSCOPY

Some indications for bronchoscopy:

### 1. *Removal of Foreign Bodies.*

It is well known that many cases have been wrongly diagnosed as asthma, tumors, tuberculosis and abscesses that were found later to be due to aspirated foreign bodies in the lungs. Jackson has reported a case which had been treated over a period of twenty-five years for an obscure lung condition that cleared up immediately following the removal of a metallic foreign body in the lung. So that the case of lung pathology in which the diagnosis is not absolutely clear-cut might benefit from a diagnostic bronchoscopy. It is usually easy to recognize the need for emergency removal of a foreign body following its aspiration. But unless the practitioner remembers the valuable help that may be rendered by bronchoscopy, he may fail to give his chronic patients the benefit of a complete diagnosis. Jackson outlines the indications for foreign body bronchoscopy as follows:

a. The appearance in the x-ray of a foreign body or any suspicious shadow.

b. Cases in which a history is given of the patient having choked on a foreign body with the latter not having been found.

c. For signs of stenosis in the trachea or bronchus.

d. Any case of suspected bronchiectasis, to check the possibility of foreign body.

e. In the patients with symptoms of pulmonary tuberculosis where bacilli cannot be found in the sputum, especially if the physical signs are at the right base.

### 2. *Unexplained Hoarseness.*

Sometimes tiny tumors of the vocal cords cannot be diagnosed under any other procedure than laryngoscopy.

### 3. *Post Operative Atelectasis.*

Following operation sometimes patients develop atelectasis, probably due to aspiration of secretions from the nose or throat. The bronchi may fill with a mucoid type of fluid, which may become purulent and may finally end in a lung abscess or bronchiectasis. Many surgeons now order a bronchoscopy done on any patient who shows signs of developing atelectasis following an operation. It is apparent that this measure may often shorten the period of post-operative recovery, not to mention its preventing serious complications.

### 4. *Persistent Cough.*

Cases where there is a persistent, unexplained cough of over a month duration should have a diagnostic bronchoscopy. Sometimes cases of lung malignancies are found in this manner. Sometimes cases of a peculiar type of dry, inflamed bronchus are found which respond to topical applications through the bronchoscope. Again, foreign bodies have been known to cause a persistent cough. The reason for such a cough may be most difficult to establish unless bronchoscopy is done. Sometimes the diagnosis of broncho-pulmonary spirochetosis or moniliasis is confirmed by use of the bronchoscope.

### 5. *Biopsy.*

If the diagnosis of pulmonary neoplasm has been made, by all means a piece of tissue should be taken from the tumor for laboratory study. Therapy and prognosis will depend upon the type of new growth as established by the pathologist.

### 6. *Acute Respiratory Diseases.*

Sometimes the membrane of diphtheria will need to be removed bronchoscopically. One of the greatest aids in treatment of acute laryngotracheo-bronchitis is the removal of plugs of exudate from the bronchi by way of the bronchoscope.

### 7. *Bronchiectasis.*

After the diagnosis has been made, many of these patients will get a large amount of relief from periodic drainage of the bronchiectatic cavity through the bronchoscope. At the same time, medicaments, such as iodized oil, may be left in the cavity.

### 8. *Lung Abscess.*

In addition to other favored treatments of this condition, bronchoscopic cleansing of the abscess cavity that communicates with the bronchus is certainly a valuable procedure. Aspiration of these cavities should probably be done twice weekly.

### 9. *Asthma.*

To remove sticky secretions and give comfort.

Bronchoscopy has been said to be contra-indicated in such conditions as aortic aneurism, certain cardio-vascular diseases such as extreme hyper-

tension, and most acute upper respiratory infections. Patients with a collapsed lung from phrenicectomy or artificial pneumothorax need not be denied bronchoscopy. The master, Chevalier Jackson, recognizes no absolute contra-indications. It is axiomatic that the bronchoscopist should work in close communion with the physician in charge of the case.

### ESOPHAGOSCOPY

Esophagoscopy should be done for:

#### 1. *Foreign Body Removal.*

It is a grave mistake in the cases with a foreign body in the esophagus to advise them to swallow quantities of bulky foodstuff in the supposition that it will dislodge the foreign body and force it into the stomach. The esophagus is a thin-walled muscular tube which is unprotected by cartilaginous rings such as are found in the trachea. Therefore, foreign bodies lodged there are more apt to tear the delicate tissues and set up inflammatory processes, which may prove to be fatal. A little reflection must lead to the conclusion that the procedure of attempting to force foreign bodies down into the stomach by having the patient eat such things as bread and mashed potatoes may be fraught with grave consequences.

#### 2. *Laryngismus Stridulus.*

Sometime during the course of any medical practice, the physician will be confronted with a patient who claims difficulty in swallowing, with choking sensations when attempting to do so. Many times these patients become terror-stricken and at the same time choke all the more. Often these cases are put down as hysteria and little is done for them except the prescribing of bromides or placebos. A dilatation with the esophagoscope will often cure these patients after the first treatment. At the same time it is possible to explore the esophagus for possible stenosis or neoplasms or inflammatory processes.

#### 3. *Biopsy.*

Material from a new growth in the esophagus is easily obtained through the esophagoscope. The patient should not be denied the benefit of laboratory study of sections of any tumor that may be lodged in his esophagus.

#### 4. *Cardiospasm.*

Many of these cases are benefitted by dilatation with an esophagoscope.

#### 5. *Esophageal Stenosis.*

It is damnable, but true, that many people leave such caustics as lye within easy reach of children. We wish that every physician who enters a home and sees such strong chemicals stored so that children can get at them would forthwith give that family a stern lecture about the terrible danger inherent in these household articles. Once a child has swallowed such a chemical as lye, it is good practice to begin treatment with the esophagoscope almost immediately. It is not advisable to wait until more or less complete stenosis has developed in the esophagus. If treatment is delayed until a cicatrix has become well organized, hope of an ultimate cure may be just about abandoned. Early treatment, however, many times prevents extensive scar formation, and may serve to keep the esophagus satisfactorily open. So, by no means should early esophagoscopy be denied the unfortunate patient who has swallowed a caustic.

The contra-indications for esophagoscopy are about the same as for bronchoscopy. Caution must be observed in a patient with esophageal varicosities and necrotic esophagitis.

### SUMMARY

In this brief review we have tried to focus attention on some of the many uses of peroral endoscopy in addition to its most widely known function, i. e., the removal of foreign bodies from the air and food passages. True, in this dramatic phase of the work, many lives are saved. But it is our plea that the physician remember that there are other quite as useful, if less dramatic, purposes to which peroral endoscopy may be put. This technique of surgical practice lends itself to the employment of the most reliable of the five senses, that is, sight. It may be trite to recall this observation, but with a bronchoscope or esophagoscope the surgeon sees and feels. He doesn't have to depend upon listening or smelling or tasting. The judicious, intelligent utilization of the skill of the endoscopist will often bring highly valuable aid to any physician who is called upon to handle cases involving the air or food passages. Endoscopy should be called on oftener, for it has much to offer.

1st National Bank Building.

## Retinal Glioma

OSCAR W. THOENY, M.D.  
Phoenix, Ariz.

**R**ETINAL glioma is a very malignant tumor of the retina which affects infants in the first few years of life. In about 80 per cent of the cases it occurs before the end of the third year; it probably is always congenital, but may remain quiescent for several years. In from 25 to 33 per cent of cases the disease is bilateral, the second eye being

affected spontaneously and not by metastasis from the other. There are case histories of several members in one family being afflicted, suggesting that the growth may be hereditary.

The typical picture shows in the main two types of cells prevalent, one type being cells with small, round, well-staining nuclei and a small amount of cytoplasm. These cells are found with much vitality near the blood vessels, while toward the



first saw it to escape and cones and spots suggest the neuro-epithelial cell of the retina, or the rosette. These are not found in a metastasis. The second type of cell formation is the peripheral type and they are all and the nuclei seem to disappear. They thought that what we call glioma was in truth a neuro-epithelioma. Since then, other stains would suggest that they are true glial tissue cells. There remains some argument at the present time and it has been suggested that this tumor be called retinoblastoma, or simply "new cells in the retina."

The clinical course passes through three stages; first, the quiescent state in which the growth starts as a whitish nodule in the retina, often with a number of smaller growths around it. As the tumor enlarges, it often detaches the retina. The vitreous cavity is gradually filled and the growth produces a pinkish or yellowish reflex together with a dilated and fixed pupil, producing the appearance described as an "amaurotic cat's eye."

The second stage is that of glaucoma, and the very eyeball may enlarge with apparent or real exophthalmus. During this stage the lens may become opaque.

The third stage is the stage of extra-ocular extension. The glioma extends most commonly along the second nerve, but after the globe becomes filled with the tumor mass, this may break through anywhere.

The fourth and last stage is that of metastasis; the nearby lymph glands are early affected and another early manifestation is found in nodules in the cranial bones.

The prognosis is not good; probably 50 per cent show further metastasis in three years. Colonel Ashe at the Army Medical Museum has a series showing the relative mortality with various types of cells, and finds that when rosettes are present the mortality is much less, the proportion being without

rosettes 100 per cent; with rosettes 12 to 15 per cent. Happily, the case to be reported had rosettes.

#### CASE REPORT

This case was a child two years and four months of age. He was first seen in October, 1938, and appeared in good health, except for the fact that he was rather small. He was one of four children, the others all being healthy. About three weeks previous to examination the mother began to notice something peculiar about the child's left eye, but later questioning produces the statement that a friend had previously noted something wrong with the eye as early as the month of July, 1938. When questioned, the mother stated she thought the eye was blind because it had the appearance of a cat's eye.

The right eye showed no abnormalities externally and intra-ocular examination indicated this eye to be normal. There was good vision in this eye.

The left eye showed injection of the anterior ciliary veins. The cornea was clear; the iris was darker than that of the normal eye and somewhat irregularly pigmented. The pupil was twice the size of the normal eye and fixed. With daylight, there was a grayish reflex coming from the inside of the eyeball.

Ophthalmoscopic examination showed no normal retina discernible. The nerve head was not seen. The inferior portion of the vitreous nasally was almost completely filled by a large tumor mass which extended almost to the lens. There was an additional lobe of this tumor mass in the temporal lower quadrant. The sharply descending edge of this tumor mass was concealed and extended higher than the normal level of the nerve head. Beyond this area, the general level of the retinal surface was more flattened, but clearly overlying some abnormal structure. The previously mentioned tumor masses were covered with finely distributed blood vessels, running in irregular anomalous fashion. There was a definite pinkish tinge to the tumor, while the more superior portion suggested a faint yellowish tint. Tension in the eye was 120 by McLean's Tonometer.

On the day following my examination, an enucleation was done on this eye and the child has had a normal convalescence from his enucleation. At the present time the right eye remains normal.

15 E. Monroe St.

## Effect and Treatment of Arizona Scorpion Stings

MELVIN L. KENT, M. D.

and

HERBERT L. STAHNKE

Mesa, Arizona

MANY people of Arizona do not consider the scorpion dangerous. Yet more deaths have resulted from this arthropod since 1929 than any other venomous animal. This fallacy in common opinion has probably arisen as a result of several conditions. First, the average layman is not aware of the existence of more than one species of scorpion. To him scorpions are scorpions. Second, the venom of all species of scorpion is apparently not of the same chemical constitution as shown by experiments on white rats of the Wistar strain. Third, the reaction

of the venom is conditioned by the size, age and physical condition of the victim.<sup>1</sup>

As has been reported previously,<sup>2</sup> the venomous effect of three common species of scorpions of the Salt River Valley has been determined by laboratory methods. These are the striped-tail scorpion, *Vejovis spinigerus* (Wood), the giant hairy scorpion, *Hadrurus hirsutus* (Wood), and the yellow slender-

<sup>1</sup>A third and fourth factor may enter in here. The depth of the sting-penetration seems to have some influence upon the seriousness of the reaction within the same species. Likewise, a condition of seasonal potency is suggested by Dr. Ernest Cervera, director of the Institute of Hygiene of Mexico, in his pamphlet on "Anti-Scorpion Serum" for *C. suffusus*. This has not been experienced by the authors.

<sup>2</sup>H. L. Stahnke: "Science," 88 (2277):166-167, Aug. 19, 1938.

tailed scorpion, *Centruroides sculpturatus* (Ewing).

In order to obtain the effects of the sting under natural conditions, rather than a quantitative measure of toxicity, the scorpion was induced to sting the white rat, usually in the hind foot where there is little or no fur, and local reactions can be more readily observed. It was only with some difficulty that penetration could be secured by the sting of the two stronger looking species, *H. hirsutus* and *V. spinigerus*, while the slender *C. sculpturatus* could make its sting penetrate with apparent ease. Whenever a definite sting was obtained, the venom of *H. hirsutus* caused a swelling in the region of the sting so that the toes were about twice their normal size. In the case of *V. spinigerus* a swelling likewise occurred, but it was not nearly as great as that produced by the giant hairy scorpion. Outside of this swelling no other reactions from the venom were apparent. A slight nervousness was observed, but that was attributed to fright rather than to the venom. After about the first five minutes the rats did not even avoid walking with the swollen foot, even though the foot was sensitive when touched with a forceps. Within two to three hours all signs of the sting had disappeared. Rats stung by *C. sculpturatus* did not experience a local swelling, although the foot was favored, but the reaction seemed to be general and neuropathic. Death occurred within a period varying from ten minutes to one and one-half hours.

In the case of rats stung by *C. sculpturatus* a general description of events from the time of the sting until death may be stated as follows: Within one or two minutes after the sting, the rat shows signs of nervousness by a gentle alternate patting of the front feet on the floor of the cage. Then there appears to be an itching in the nose as the rat frequently goes through a vigorous cleaning reaction over that region. Soon after, the animal begins to sneeze and the nose drips a colorless fluid. The sneezing continues and finally develops into an apparently involuntary severe jerking of the head. At this time the animal is very sensitive to touch, so that if even the fur is lightly touched the animal jumps and squeals. The eyes, which are now dull and glassy, are blinked frequently. Salivation begins with the sneezing and continues throughout, so that the mouth becomes frothy and the cage floor quite wet. With the onset of excessive salivation, the animal frequently inserts the toes of its front feet into its mouth as though trying to dig out some object in its throat. The next major reaction is the violent, involuntary jumping of the animal. At irregular intervals it will jump against the walls of the cage, or about two to four inches into the air, and squeal as though in pain. Finally, after apparent exhaustion, and as a result of paralysis of its hind legs, it will fall on its side, breathing with great difficulty. Even in this state of exhaustion it will often attempt to continue jumping. When complete exhaustion sets in, the animal lies still, breathes with even greater difficulty, and succumbs.

Death seems to be due to edema of the lungs and exhaustion.

The effect of the scorpion venom is quite similar in man as is shown by the following clinical evidence.<sup>3</sup> There has been 75 cases of scorpion sting treated in the Southside Hospital, Mesa, Ariz., between the dates, April 1930, to May, 1937. Unfortunately, the records of some of these cases are not complete. However, from a study of the material available, and from personal clinical experience, the reaction in the human is quite similar to that of the laboratory animal. The cases studied have ranged from four months to seventy years of age.

#### SYMPTOMS

Symptoms are invariably more pronounced in children. Stings by *C. sculpturatus*, unless treated at once, are almost always fatal to infants under one year of age. They are extremely dangerous to older children, and may cause serious inconvenience to adults. A child stung will cry out with pain. Most generally there is little sign of the sting, either in the form of inflammation or swelling. The victim soon becomes restless. The restlessness increases to a degree that the child becomes entirely unable to co-operate with attendants. It turns and frets; if placed on its back in bed it does not remain quiet an instant. Frequently it crawls across the bed and attempts to grab its mother or other attendant. The abdominal muscles may become rigid. There may be tonic contractions of the arms and legs. Drooling of saliva begins and the heart rate increases. The temperature may reach 103 to 104 degrees in a case that will subsequently recover. Cyanosis gradually appears, and respiration becomes increasingly difficult, causing a reaction not unlike that observed in a severe attack of bronchial asthma. There may be wheezing, especially on inspiration, such as is observed in laryngeal diphtheria where tracheotomy should have been done hours before. Involuntary urination and defecation may occur. In fatal cases the above symptoms become so marked that the child apparently dies from exhaustion.

In cases that recover, the acute symptoms subside in 12 hours or less. In the adult, symptoms as above enumerated may be encountered, but as a rule they are less severe. Numbness is usually experienced at the site of the sting. If one of the appendages has been stung, that member may become temporarily useless. Two cases of temporary blindness have been experienced. Some patients complain of malaise for many days following the

(Continued on page 124)

<sup>3</sup>The Department of Public Health, Institute of Hygiene, Potosi, Mexico, D. F., reports the general reactions of their species of *CENTRUROIDES* as follows: "There is an intense pain during the first minutes, accompanied by spasms and involuntary movements of the affected region. The patient gives signs of much anxiety, together with sneezing, salivation, dysphagia pains and intense thirst. Following these are generalized pains and lymphangitis around the site of the sting. Later the general pain diminishes, but local pain persists and paralysis of the pharyngeal muscles. In weak persons and children, these symptoms are more grave and frequently end with death."



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Southwestern Medical Association  
El Paso County (Texas) Medical Society

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CHARLES S. SMITH, M. D.

At the forty-eighth Annual Session of the Arizona State Medical Association, held in Phoenix, April 13, 14 and 15, Dr. Charles S. Smith of Nogales assumed the office of president. He will serve until the 1940 session of the Association.

Dr. Smith was born June 13, 1892, in Edison, Georgia. He was educated in the local public

schools. He took college work at Gordon Institute and the University of Georgia. His medical degree was granted him in June, 1914, by Emory University of Atlanta. He served a general internship at Atlanta Hospital during the years 1914-15. He then entered general practice in his home town of Edison, Georgia. In 1916 he married Miss Mary Allen Talbert of Edgefield, South Carolina. Dr. and Mrs. Smith have two children, Charles, Jr. and Mary Allen.

During the World War Dr. Smith served his country as a commissioned officer in the Medical Corps. Following the Armistice Dr. Smith served an internship in eye, ear, nose, and throat at St. Luke's Hospital in New York City. Following this he joined the staff of Beckley Hospital, Beckley, West Virginia, where he was chief of the eye, ear, nose, and throat department until 1927. He served the Raleigh County, West Virginia, Medical Society as secretary for three years. During the years 1923-24 he was vice-president of the West Virginia State Medical Association. He was secretary and president of the Beckley Rotary Club.

Moving to Arizona eleven years ago, Dr. Smith continued the practice of his specialty. He has twice been named president of the Santa Cruz County Medical Society. He has served this same Society as secretary for six years. Dr. Smith is vice-president of the Arizona Board of Medical Examiners, having been appointed in 1936 and re-appointed in 1938 for a six-year term.

Membership by Dr. Smith is held in the following: Chi Phi (Academic), Phi Chi (Medical), Arizona State Medical Association, American Medical Association, Southwestern Medical Association, Santa Cruz County Medical Society and the Southwestern Academy of Eye, Ear, Nose, and Throat. At various times Dr. Smith has done post-graduate work in Chicago, New York, Los Angeles, and San Francisco.

In assuming the presidency of the Arizona State Medical Association, Dr. Smith brings to the office a vast enthusiasm and a depth of capacity for the tasks awaiting him as an officer in organized medicine in these trying days.

## FIFTY-SEVENTH ANNUAL SESSION NEW MEXICO MEDICAL SOCIETY

Elsewhere in this issue will be found the complete program of the 1939 session of the New Mexico Medical Society to be held in Gallup, May 11, 12, 13. Dr. E. W. Fiske, of Santa Fe, retires as president at this meeting. To be elevated to the presidency is Dr. George T. Colvard, of Deming. The scientific sessions are scheduled at the headquarters hotel, El Rancho.

Extra mural entertainment will include a buffet supper for registrants and their ladies, a smoker with a floor show and a dinner dance on Friday evening. Visiting ladies will be given a reception, a luncheon, and a sight-seeing trip. Commercial exhibitors will display their wares in the lobby of the headquarters hotel.

The opening session will be addressed by John E. Miles, Governor of New Mexico. Following the presidential address a series of twenty-two scientific papers are to be presented. Most of the speakers are from out of the state of New Mexico; two come from El Paso, one from Phoenix, several from Denver, while others are to appear from various sections. As indicated by the number of papers scheduled most of the important fields of medicine will be thoroughly covered at the scientific session. The House of Delegates has several sessions scheduled at which time many important matters pertaining to the welfare of the medical profession in New Mexico are to be considered.

The various committees in charge of the meeting have extended themselves in an effort to bring some of the best-known teachers of medicine to Gallup for the instruction of Southwestern physicians. Dr. W. B. Cantrell served as general chairman of this year's meeting. Dr. D. F. Monaco as chairman of the scientific program, has accomplished a large task in inviting and assembling the astonishing array of speakers scheduled for the meeting.

Every year it is becoming more noticeable that there is an increasing exchange of registrants among the various state and regional meetings held throughout the Southwest. It is a healthy sign when Arizona and El Paso support New Mexico's meetings, and likewise New Mexico in her turn supports Arizona's and El Paso's meetings each year. All physicians in this Southwest have a great deal in common. It is quite fitting that we assemble at one another's official meetings each year and further cement our common interests.

The physicians of New Mexico, as always, extend a sincere invitation to all physicians in good standing of the Southwest to meet with them at their annual session.

### PHYSICIAN'S FEES

Although there is a temporary lull in the windstorms regarding the "high cost of medical care" the advocates of the Newer Dispensation are not at all permanently silenced. There is less vote-grabbing oratory today directed at that famous whipping-boy, the physician's fees. Public revulsion has put at least a temporary ban on the late blatant denunciations of America's family physicians and their works.

During the zenith of the screaming it was pointed out by SOUTHWESTERN MEDICINE<sup>1</sup> that: "The average case of sickness is not costly to the patient from the standpoint of the physician's fees. Why then charge it all up to the doctor? Is he responsible for the high prices of serums, of prescriptions, of arsenicals, of gland extracts, of chemicals, of hospitalization, of dressings, of nursing care, of x-ray film? Rarely more than one-third of the cost of any case of sickness is embraced by the physician's fee. The balance of the cost must be charged to the drug store, the hospital, the nurse, the pharmaceutical and biological manufacturers. Yet the unfair cry is raised that the physician's fees are too high, and the demand is made on the gov-

ernment to furnish physicians with no cost to the sick man."

MacKenzie,<sup>2</sup> speaking before Tufts College students, says in direct support of the above: "Under modern conditions, medical science has become much more comprehensive, and is no longer synonymous with the activities of the handful of men comprising the regular medical profession. Of all the persons engaged in supplying the medical needs of this country, only one in nine is a licensed physician—a ratio which would be even lower if the total included the employees engaged in selling and manufacturing drugs and instruments. This huge auxiliary army of medical workers and the institutions which it represents absorb about 70 per cent of the money spent annually for medical purposes. The remaining 30 per cent represents the gross amount paid to physicians in private practice, of which an unestimated but indubitably large proportion is in turn required for overhead expenses, and is thus added to the 70 per cent just mentioned. . .

. . . Now, the 70 per cent of the medical budget not destined for practicing physicians is subdivided as follows: hospital facilities, 23 per cent; drugs (including patent medicine), instruments and miscellaneous, 20 per cent; dental care, 12 per cent; irregular practitioners, cultists, quacks, and so forth, 7 per cent; nursing care, 5 per cent; and public-health work, 3 per cent. That a considerable part of this money is now being spent as wisely and efficiently as it could be under any other system of medical care is unquestioned; it is equally true that its allocation is partially approved, even if not actually controlled, by the medical profession. By far the larger amount, however, is in the hands of lay people. Many of these, flagrantly contradicting the medical profession's own ideal of service, profit by the needs of universities, physicians and patients for medicines, instruments and laboratory equipment, selling this necessary material on the commercial basis of charging all that the traffic will bear. Real estate, automobiles and building materials—as vital to modern medicine as is scientific equipment—are rarely acquired without some 'humanitarian' realizing his 5 to 20 per cent margin of profit. Despite the physicians' avowed influence in hospital affairs, politicians, trustees and unpredictable dispensers of charity too often have actual control of the working of these institutions. A notorious evil, of course, is the relentless grasp of the politician upon the public-health work of many states and municipalities. . ."

Isn't it just possible that there is a growing, wide-spread conviction that the early barrage of smoke and gas is wafting back into the faces of those once most furious in their fervor to discredit the family physicians of this republic?

Questions of import may not be settled permanently without copious resort to reason. Can it be that, long delayed, sweet reason begins to rise over the ashes of yesterday's fire and fury?

1. S. W. Med., 22:230, June, 1938.

2. MacKenzie, M. V.: The Control of Medical Science. N. E. J. Med., 226:136, Jan. 26, 1939.



## EFFECT AND TREATMENT OF ARIZONA SCORPION STINGS

(Continued from page 121)

sting. One patient developed a tachycardia lasting two weeks.

### TREATMENT

In the treatment of patients suffering from scorpion sting it was found best to use morphine with extreme caution. It has not been found effective in the usual dosage. Barbiturates are more effective and less dangerous. Bromides in large doses are apparently of value. In those cases characterized by severe pulmonary edema, atropine is indicated along with general supportive measures. Compresses, using a fairly concentrated ammonium hydroxide solution, have been found quite helpful if applied within a few minutes. If these are applied for the first time about ten minutes after the sting, no apparent benefit is attained.

During the past 18 months, several of the more severe cases have been treated with scorpion serum<sup>4</sup> with results that are encouraging. Symptoms were

<sup>4</sup>Op. cit. This serum may be obtained from the Institute of Hygiene of this Department of Health, Popotla, Mexico, D. F. The serum comes in 5 and 10 c.c. vials, or in the concentrated form in 3 c.c. vials. The treatment suggested by the Institute is as follows: "As soon as possible inject intramuscularly or subcutaneously 5 to 10 c.c. of natural serum or 3 c.c. of the concentrated. In serious cases inject intravenously."

controlled more rapidly, and, I believe, in no case has death occurred where the serum was used. The following case made a dramatic recovery:

A.J., boy, aged 3, stung on foot at 10:00 P.M. Child screamed with pain, mother found scorpion in bed near child's leg. He was brought into hospital at 10:20 P.M. Examination revealed a well-developed male child of 3 years. He seemed to be in extreme pain, was crying and extremely nervous and agitated. He was completely at a loss to know what to do. When placed on his back on examining table he would turn over on his hands and knees and reach for his mother. When in his mother's arms he would toss and struggle. Breathing was labored, respiration not increased. He was inattentive and would not co-operate in the least. Two grains of sodium amytal were given on admission. He became cyanotic, and respiration became more labored. He was comatose. At this time 5 c.c. of serum was administered in the gluteal muscle. The result was startling. Within 5 minutes symptoms were less pronounced. In 15 minutes the child was almost symptom free and soon after fell asleep. Observation during the night revealed nothing abnormal. The baby left the hospital the following morning with no untoward effects whatever.

No immediate untoward results were seen after use of the serum. Three cases developed marked urticaria, which was somewhat more severe than is generally experienced following the use of tetanus antitoxin.

Make arrangements now to attend the

## ANNUAL MEETING

of the

New Mexico Medical Society

Gallup, New Mexico

May 11-12-13, 1939

# Just to Remind You that your Hay Fever Patients

who failed to apply for preseasonal desensitization may obtain definite relief of symptoms by intraseasonal desensitization. Success will depend upon the use of pollen extracts selected for each individual patient.

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## NEWS

### General

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that the annual foundation prize for this year will be \$100. Those eligible include only (1) internes, residents or graduate students in obstetrics, gynecology and abdominal surgery, (2) physicians (M.D. degree) who are actually practicing or teaching obstetrics, gynecology or abdominal surgery.

Competing manuscripts must (1) be presented in triplicate under a nom de plume to the secretary of the association before June 1, (2) be limited to 5,000 words and such illustrations as are necessary for a clear exposition of the thesis, and (3) be typewritten (double-spaced) on one side of the sheets, with ample margins.

The successful thesis must be presented at the next annual (September) meeting of the association, without expense to the association and in conformity with its regulations.

For further details address Dr. James R. Bloss, secretary, 418 Eleventh St., Huntington, W. Va.

"The American Physicians' Art Association, composed of members in the United States, Canada and Hawaii, will hold its second art exhibit in the City Art Museum of St. Louis, May 14-20, 1939, during the annual session of the American Medical Association. Art pieces will be accepted for this art show in the following classifications: (1) oils both (a) portrait and (b) landscape; (2) water colors; (3) sculpture; (4) photographic art; (5) etchings; (6) ceramics; (7) pastels; (8) charcoal drawings; (9) bookbinding; (10) wood carving; (11) metal work (jewelry). Practically all pieces sent in will be accepted. There will be over 60 valuable prize awards. For details of membership in this association and rules of the exhibit, kindly write to Max Thorek, M.D., secretary, 850 Irving Park Blvd., Chicago, Ill., or F. H. Redewill, M.D., president, 521-536 Flood Bldg., San Francisco, Calif.

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the secretary before Aug. 20, 1939, for the October 16, 1939, examination, and on or before Jan. 1 for the Feb. 19, 1940, examination.

Application forms may be obtained from Dr. William S. Middleton, secretary-treasurer, 1301 University Ave., Madison, Wis.

### El Paso

Dr. I. J. Bush, former chief surgeon in the Mexican Revolutionary Army under Pancho Villa, and pioneer physician of the Southwest, died Mar. 10.

His book, "The Gringo Doctor," telling of his experiences in the Mexican Revolutionary Army and 40 years on the Mexican border, will be released May 16.

Dr. Bush moved to El Paso in 1897. He was a member of the El Paso County Medical Society. He is survived by his widow, Mrs. I. J. Bush of El Paso, and a brother, A. S. Bush, principal of a San Antonio high school.

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, Mar. 7, 1939, at 12:10 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

"Acute Diverticulitis of the Sigmoid" Dr. J. L. Murphy	Discussion .....	Dr. Chester Awe
"Gunshot Wound of Abdomen Perforating Liver and Vena Cava" .....	Dr. Paul Gallagher	
Discussion .....	Dr. L. Villareal	

A regular meeting of the City-County Hospital Staff was held Wednesday, Mar. 15, 1939, at 6:30 P. M., at the City-County Hospital. The program was as follows:

"Indications and Conditions for Caesarian Section" .....	Dr. J. Leighton Green
"Pathological Bleeding During Pregnancy" .....	
.....	Dr. Charles Rennick
"Episiotomy" .....	Dr. Jesson L. Stowe

The regular dinner and staff meeting of the Southwestern General Hospital was held Thursday, Mar. 23, 1939, at 6:30 P. M. in the Hospital Auditorium. The program was as follows:

"Differential Diagnosis for Continuous Fever" .....	Dr. J. P. Peticolas
Discussion .....	Dr. J. J. Gorman
"Post-Operative General Peritonitis with Paralytic Ileus" .....	Dr. W. J. Pangman
Discussion .....	Dr. G. H. Jordan

The El Paso County Medical Society met Mar. 27, 1939, at 7:00 P. M. Dinner was served. The scientific program was as follows:

"Comparative Study of Arteriosclerotic Gangrene and Buerger's Disease" .....	Dr. George Turner
Discussion .....	Dr. Felix P. Miller
"Pheochromocytoma—Case Report" .....	
.....	Dr. B. F. Stevens
Lantern Slide Demonstration and Autopsy Report .....	Dr. W. W. Waite

The El Paso County Medical Society met Mar. 13, 1939, at 7:00 P. M. The program was as follows:

"New Method of Skin Testing with Allergens" .....	
.....	Dr. L. O. Dutton

"Hypo-proteinemia in Relation to a Liver Function ..... Dr. J. Mott Rawlings  
Formation of a cancer clinic was discussed by  
Drs. Felix P. Miller and John W. Cathcart.

Dr. John A. Hardy was elected chief of the medical staff of Masonic Hospital at the annual staff meeting. Dr. Russell Holt was elected assistant chief of staff. Dr. Charles Rennick is secretary. Executive committee: Dr. J. H. Gambrell, Dr. George Turner and Dr. E. J. Cummins. Dr. S. T. Armstead is retiring chief of staff. Dr. E. Grady Causey is retiring secretary.

Dr. John C. Crimen, 53, general manager of the Southwestern Hospital, died suddenly Mar. 13 during a heart attack.

Dr. Crimen had been associated with the Homan family of physicians practically since coming to El Paso 29 years ago. He was business manager and part owner of the old Homan Sanatorium for many years, and assumed management and part ownership of the Southwestern General Hospital two years ago when it was opened.

Dr. Crimen was educated at New Orleans, taking his degree in dentistry from Tulane University. After a short period of active practice he returned to Tulane as an instructor in dentistry.

He is survived by his widow, a son, John C. Crimen, Jr., and two daughters, Johnell and Jennie Bob Crimen.

### New Mexico

The Chaves County Medical Society, organized Mar. 7, 1904, observed its thirty-fifth anniversary at a dinner in Roswell Mar. 8. Talks on the early days in the medical profession in the county were made by the three charter members still in the society, Dr. W. W. Phillips, Dr. R. L. Bradley and Dr. C. F. Beeson.

### AUXILIARY NEWS

Mrs. J. W. Laws was named president-elect of the Woman's Auxiliary to the El Paso County Medical Society at the annual meeting, Mar. 13, 1939, in the home of Mrs. Leslie Smith.

Mrs. Branch Craige, chosen president-elect last year, will succeed Mrs. F. O. Barrett as president in 1939-40.

Others elected to serve with Mrs. Craige are: Mmes. Henry T. Safford, Jr., first vice-president; W. E. Vandevere, second vice-president; Leslie Smith, third vice-president; John L. Murphy, recording secretary; J. T. Bennett, corresponding secretary, and Paul McChesney, treasurer.

## MISCELLANY

### IMMUNIZATION PROCEDURES

(Continued from March issue)

#### VI. EPIDEMIC PAROTITIS

A. *Test*: None. B. *Active Immunity*: C. *Passive Immunity*—1. *Treatment*: Convalescent serum has been used in doses of from 50 cc. to 100 cc. and is injected intramuscularly to prevent complications. 2. *Exposures*: From 6 cc. to 10 cc. of convalescent serum have been given intramuscularly, but there is no evidence that it has any value.

#### VII. PERTUSSIS

A. *Test*: None. B. *Active Immunity*: The materials used are as follows: (1) Krueger's endo-antigen: 1.0 cc., then 1.5 cc. subcutaneously every other day for six doses. It is not of proven value. (2) Sauers vaccine: 8 cc. to 10 cc. of vaccine standardized to ten billion organisms per cc. One cc. is injected under the skin in the deltoid area of each arm, 1.5 cc. to 2 cc. in the biceps area of each arm and 1.5 cc. to 2 cc. in the triceps area of each arm at weekly intervals. Its value has neither been definitely disproved nor proved. (3) Old-fashioned vaccine; not of proven value. Immunization may be begun after the child is 3 months of age.

C. *Passive Immunity*—1. *Treatment*: (a) From 35 cc. to 50 cc. of convalescent serum have been used intramuscularly. This treatment is not of proven value.

Certain agents used in the production of active immunity have been used in treatment. (b) Krueger's endo-antigen mixed: 0.5 cc. to 2 cc. daily for from 10 to 15 injections—of no proven value. (c) Topagen:  $\frac{1}{4}$  cc. into each nostril each or every other day—given from 4 to 5 times for improvement and for 2 weeks to prevent return of the paroxysms—of no proven value. (d) Vaccines of various kinds: of no proven value. (e) Detoxified Pertussis Antigen: only experimental as yet 2. *Exposures*: See ACTIVE IMMUNITY.

#### VIII. PNEUMONIA

A. *Test*: Bacteriological tests for type specificity; Nelfeld's test for type pneumococcus specificity. B. *Active Immunity*: None. Felton's work with polysaccharide vaccine is still in the experimental stage.

C. *Passive Immunity*—1. *Treatment*: Antiserums as a passive immune principle have definite value in treating pneumonia caused by types I, II, III, V, VII and VIII pneumococcal organisms. Other types of serums should be utilized as soon as available. Sulfanilamide should be used with type III infections. 2. *Exposures*: No therapy is advised.

#### IX. POLIOMYELITIS

A. *Test*: None. B. *Active Immunity*: None recommended. C. *Passive Immunity*—1. *Treatment*: From 25 cc. to 50 cc. of convalescent serum has been used for active and passive immunity. Its value has not been demonstrated in controlled experiments. 2. *Exposures*: No therapy is advised. Vaccination with vaccines is not recommended.

#### X. RABIES

A. *Test*: None. B. *Active Immunity*: Not generally practiced save in exposures. See EXPOSURES. C. *Passive Immunity*—1. *Treatment*: None. 2. *Exposures* are actively immunized by Semple's or Cumming's vaccine in the Pasteur Treatment. (a) Semple virus (killed): 14 doses—1 dose daily; after head or neck bites—2 doses daily for 7 days



then 1 dose per day for 7 days. Injections are usually made into the abdominal and subscapular areas, and subcutaneously. (b) Cumming's virus: sterile brain tissue—virulence destroyed by dialysis against running distilled water—14 injections, once a day for slight lacerations. Each container holds about 2.0 cc. For severe bites, 21 injections—starting two injections a day for the first 5 days and then one injection a day thereafter. Patients bitten about the nose and face, and children under 10 years of age should be given 21 injections. Occasional paralyses may occur with the use of vaccine. This, however, is not so important as the fact that the mortality rate in this disease is from 60 to 90 per cent.

#### XI. MEASLES

A. *Test*: None. B. *Active Immunity*: None.

C. *Passive Immunity*—1. *Treatment*: Adult whole blood, human convalescent measles serum and placental globulin extract have been used as passive immune principles. It has not been shown that adult whole blood is of proven value. Convalescent serum in amounts of 50 cc. or more is of value. From 2 cc. to 10 cc. of placental globulin extract have been used in the prodromal stage of the disease. 2. *Exposures*: In order to prevent measles, 10 cc. of convalescent serum should be injected within the first few days after exposure. The objective, however, should be to modify and not to prevent the disease. The serum should be given on the sixth day after exposure, although it is pertinent to note that permanent immunity does not invariably follow modified measles. If convalescent measles serum is not available, from 2 to 4 cc. of placental globulin extract may be used either to prevent or to modify the disease.

#### XII. SCARLET FEVER

A. *Test*: The specific test is the Dick test. Although it is not 100 per cent perfect, it generally indicates a susceptible individual. If the physician remembers the small percentage of negatives that may be susceptible, the test is invaluable. Inject 0.1 cc. of scarlet fever toxin intradermally and read in 24 hours. If there is an area of redness of 0.5 cm. or larger, the test is positive. B. *Active Immunity*: Scarlet fever streptococcus toxin is used to immunize susceptible individuals. A Dick positive reactor may be rendered negative by injecting increasing skin test doses of scarlet fever toxin—500, 800, 2,000, 8,000, 80,000 units weekly intervals. Some of the Committee feel that scarlet fever immunization cannot be put in the same class with diphtheria immunization and should be presented as a less desirable procedure carried out under definite conditions of exposure. Immunization should not start before 12 and preferably after 18 months of age.

C. *Passive Immunity*—1. *Treatment*: Scarlet fever antitoxin has been used as the passive immune principle. Its use may be associated with severe serum sickness. Recently, purified scarlet fever antitoxins have been described which do not cause so many reactions. One or two ampoules—from 6,000 to 12,000 antitoxin units should be used as early as possible. Convalescent serum may be of value, but it should be used in large amounts, at least from 80 cc. to 100 cc. 2. *Exposures* should not be given anything.

#### XIII. STAPHYLOCOCCUS INFECTIONS

A. *Test*: None. B. *Active Immunity*: Staphylococcus toxoid may be used as an active immune principle. Its use is limited and still in the experimental stage, and its effectiveness has not been determined.

C. *Passive Immunity*—1. *Treatment*: Staphylococcus antitoxin has been used, but there is no evidence that it is of any value. 2. *Exposures*: No therapy is recommended.

#### XIV. TETANUS

A. *Test*: None. B. *Active Immunity*: Tetanus toxoid has been recommended in doses of 0.5 cc., 1.0 cc. and 1.0 cc. at weekly intervals. It is of proven value, but its use is limited.

C. *Passive Immunity*—1. *Treatment*: Tetanus antitoxin as a passive immune principle is of proven value. The amounts that should be used are sometimes massive, from 100,000 units to 800,000 units injected intramuscularly and intravenously. Some of the Committee feel that 40,000 units will accomplish the same result as a massive dose. 2. *Exposures*: Inject from 1,000 units to 2,000 units of tetanus antitoxin intramuscularly. This must be repeated in from 7 to 10 days if the wound is deep or on the face, or if it covers a large area and if the exposure has been massive.

#### XV. TUBERCULOSIS

A. *Test*: The tuberculin test is of proven value, although it does not denote activity save in children under 2 years. It is possible, although improbable, that a child might have recovered from the disease at that age. A persistent negative tuberculin test is a dilution as low as 1/10 is generally considered to mean that the individual does not have tuberculosis.

B. *Active Immunity*: B.C.G. vaccine has been recommended, but there is no conclusive evidence of its value, and it is as yet experimental. B.C.G. vaccine should not be used in private practice. C. *Passive Immunity*—1. *Treatment*: There is no passive immune principle. 2. *Exposures*: No therapy.

#### XVI. TYPHOID FEVER

A. *Test*: None. B. *Active Immunity*: Typhoid fever vaccine injected subcutaneously in doses of 0.5 cc., 1.0 cc. and 1.0 cc. is used as an active immune principle in those localities where typhoid fever is a common occurrence. The immunity does not last longer than 2 years. A common practice is to reinject 1 cc. every year in the spring of the year.

C. *Passive Immunity*—1. *Treatment*: Schwartzman's antityphoid serum may be mentioned; it is only of experimental value. 2. *Exposures*: Vaccinate with typhoid fever vaccine.

#### XVII. VARICELLA

A. *Test*: None. B. *Active Immunity*: Vesicle contents have been used to immunize but there is no conclusive evidence that the procedure is of any value. C. *Passive Immunity*—1. *Treatment*: Convalescent serum has been used, but it is the consensus of opinion that it is useless. 2. *Exposures*: Ten cc. of convalescent serum has been used, intramuscularly, but the results are not convincing.

#### XVIII. VARIOLA

A. *Test*: There is no specific test for the disease, although a reaction of immunity following vaccination is sufficient evidence of immunity if there has been a previous history of vaccination and objective evidence of an old vaccination scar.

B. *Active Immunity*: Calf vaccine smallpox virus is recommended as an active immune principle of proven value. (1) Vaccination is sometimes carried out by scarifying the skin with a knife and rubbing the vaccine material into the denuded area. This method is not recommended. (2) It may also be performed by criss-cross scratching of the epidermis with a needle or other sharp pointed instrument and rubbing the virus into the scratched area. This is not recommended. (3) A drop of vaccine is placed on the skin and multiple acupunctures are made into the skin and through the vaccine. This is the method recommended by the United States Public Health Service. (4) Vaccination may be done intradermally. The contents of a capillary tube is sucked into a small needle.

shaken and 0.1 cc. of this mixture injected intradermally. *Caution:* Never put an occlusive dressing, shield, etc., over a vaccinated area. Never draw blood when vaccinating. Just go through the epidermis. Vaccinate as early in life as possible—at least before 3 years of age, since post-vaccinal encephalitis does not occur before that age.

Virus has been artificially grown by Goodpasture and Rivers. There is no evidence at hand that these vaccines are any better than the present universally used calf vaccine. However, there may be practical reasons for their use in warmer climates and under certain circumstances.

C. *Passive Immunity*—1. *Treatment:* None. 2. *Exposures:* Vaccination.—J. of Med (Cincinnati).

#### TEN DON'TS IN THE FRACTURE CASE

1. Do not attempt to treat a sprain or fracture without an x-ray examination.
2. Do not reduce a fracture with misplacement without some type of anesthetic.
3. Do not reduce a fracture without competent assistance.
4. Do not fail to tell the patient the condition you are trying to overcome.
5. Do not apply a cast or splint without advising the patient of the symptoms of impaired circulation.
6. Do not fail to advise and insist on hospital care if you deem it necessary.
7. Do not neglect to see the patient often enough. Better many times too many than once too few.
8. Do not forget to advise the patient of the damage to soft parts and the possible result of this damage to function.
9. Do not let him forget that complete cooperation is expected by you during treatment and that only through such cooperation can best results be obtained.
10. Do not fail to make detailed records which should include history of accident, physical and laboratory findings—those present at time of examination and treatments—x-ray findings, dates of services rendered, splints and other materials used, advice given patient and information as to who may have heard this conversation. In fact, do not think any incident or happening too insignificant to warrant recording. Then file them carefully and permanently.—*Minn. Med.*

#### UNUSUAL CAUSE OF ACUTE INTESTINAL OBSTRUCTION

Intestinal obstruction may be caused by many kinds of foreign bodies, both endogenous and exogenous. The unusual character of the obstructing agent in this case has prompted the authors to publish this report.

We have been unable to find any recorded instance of such a case, and believe it to be unique.

In this instance a 56 year old white male swallowed four turtle eggs, which passed through the stomach and pylorus to the ileocaecal valve, at which point they became lodged, and surgical intervention became necessary.

It is interesting to note that the membranous covering of the eggs was so leathery and tough, even after being in the intestinal tract approximately four days, that it was impossible to break them open except by cutting the covering with a sharp instrument.

The following is the case history:

Mr. J. K., age 56 years, was admitted to Bethesda Hospital on June 14, 1938, complaining of severe cramp-like pains in the lower abdomen and vomiting. He thought that the trouble was due to the turtle eggs he had swallowed, while in a state of intoxication, at a picnic on June 12—two days prior. This was a little confusing to us because we did not thoroughly understand the nature of turtle eggs.

Physical examination failed to reveal anything except the distention. X-ray showed fluid levels in the small bowel.

The symptoms became more and more severe. The following day, June 15, 1938, a laparotomy was done which disclosed four spherical masses in the distal ileum, lodged at the ileocaecal valve. An ileotomy was done and four turtle eggs removed.

The recovery was uneventful except for a subfacial abscess, which opened spontaneously on the sixth postoperative day.

The patient was out of bed on the nineteenth postoperative day, and dismissed from the hospital on the twenty-sixth postoperative day.—*Ohio St. Med. J.*

#### PROBLEMS IN POLIOMYELITIS

The pressing "polio" problems of today are thought to be:

- 1.—The isolation and identification of the exact cause.
- 2.—The exact mechanism of transmission.
  - A.—The receiver.
  - B.—The transmitter.
- 3.—Is the blood stream infected?
- 4.—The positive early diagnosis before demonstrable paralysis occurs.
- 5.—The determination of the exact moment of invasion of the central nervous system.
- 6.—Spinal fluid studies:
  - A.—Diagnostic.
  - B.—Prognostic.
  - C.—Indications for therapy.
- 7.—Examination of nasal secretions.
- 8.—Examination of stools.
- 9.—Blood tests.
- 10.—Skin tests.
  - A.—To establish susceptibility.
  - B.—To establish diagnosis of "abortive or systemic polio."
  - C.—To assist in prognosis.
- 11.—The discovery of positive protection against the disease.
 

A.—Biologic	{	Heredity
		Immunization.
B.—Physical.		Vaccination.
C.—Chemical—topical application.		
- 12.—Factors in prevention.
- 13.—Factors in protection.
- 14.—The discovery of a cure.
 

A.—Biologic	{	Serum	{	convalescent
				normal
				animal
				hyper-immune
				serum
B.—Chemical	{	Vaccine		
C.—Physical	{			lumbar puncture.
				irrigation of
				spinal canal.
				fever.
				posture.
	{			respirator.
				early hydro-therapy.



15.—Dissemination of knowledge, by publications and radio, to:

- A.—Physicians.
- B.—Physical therapists.
- C.—Medical students.
- D.—Laity (social service workers; societies).

16.—Miscellaneous considerations.

- Warnings against:
- cultists.
  - charlatans.
  - unqualified practitioners.
  - electricity, except on a physician's prescription.

Parents "shop around" in the hope of getting a better prognosis and permission for the early use of affected parts. They often become confused and fall into the hands of unqualified persons who promise results, predict recovery, guarantee cures, make financial contracts, and mulct the patients by "come-on" advertising. This group includes fakers, quacks, and certain physical trainers and irregular practitioners.—*The National Foundation for Infantile Paralysis.*

#### REMOVAL OF BB SHOT WITH GIANT MAGNET

BB shot were formerly made by pouring molten lead into molds. Today the process is the same except molten steel is used, so that the shot are attracted by a magnet. Some of the BB shot on the market have been copper coated. This does not affect the action of the magnet on them. I desire to report two cases where the magnet was successfully used in removing BB shot from the body.

*Case 1.*—B. W., a girl aged thirteen, was playing in her own back yard. One hundred and fifty feet away a neighbor boy was shooting a BB air rifle. He saw the girl, took aim and fired. The shot penetrated the right eye-ball, entering the vitreous chamber behind the lens on the nasal side. X-ray examination six hours later showed the shot still in the globe 9 mm. back of the center of the cornea, 10 mm. to the temporal side of the vertical meridian and 11 mm. below horizontal meridian. The anterior chamber was filled with blood; the pupil dilated easily. Details of fundus were not made out. There was very little reaction in the eye. The sclera was still white. Under local anesthesia a giant magnet was used, when the shot was easily drawn out through the wound of entry. The patient was given typhoid vaccine for protein reaction. She left the hospital in four days. Subsequent examination showed the lense had not been injured and there was no traumatic iritis. The vision was 20/20 with correction and has remained so for nine months, with no retina detachment.

*Case 2.*—H. N., a boy aged three, while playing with BB shot put one in his left ear. Two unsuccessful attempts were made to remove the shot with forceps which only pushed the shot further in and caused traumatism with hemorrhage. I saw the child about four hours later. Examination showed the external canal full of blood clot. When this was washed away, a very little of the surface of the shot could be seen because of swelling and edema in the external canal. Remembering that the shot was steel, removal was easily done under ether anesthesia with the giant magnet, after the external canal had been packed with alcohol cotton for twelve hours. The shot was lying against the drum membrane. No inflammatory reaction followed. These BB shot had a diameter of 3.5 mm. and weighed 350 mg.—*Jour. M.S.M.S.*

#### CONTROLLING ONE'S DESTINY

There are times in every doctor's career when he encounters a run of success. Day after day passes when all goes well with his patients, and he falls an easy prey to their praise and thanks. His step lightens, his chin goes up, and he pats himself on the back and says, "What a big boy am I!" He is satisfied and pleased with himself and his work.

Then all unexpectedly comes the period when day after day adversity dogs his footsteps. As one day follows another, and adversity clings on, his chin gradually falls, his face lengthens, his step becomes heavy, and the sunshine of his countenance gleams less brightly; and as despair deepens, he reproaches himself with "What a big chump am I!"

An elderly, sympathetic doctor once expressed his philosophy something like this:

"Beware of the days when all goes well; beware of the word of praise and the pat on the back, for all such things are fickle. But when Old Man Adversity knocks at your door, do not try to holler loud enough to drown the sound of his knocking. Ask the old croaker to come in and justify his visit. Be candid with him, strip him of his cloak of mystery and find the purpose of his visit. From him you may learn much; but he is a peculiar sort of fellow in that, the more you learn from him, the less often does he knock at your door, and the happier are your days."—*Jour. Med. Soc. N. J.*

#### PNEUMONIA "CURES"

The file of proprietary medicines, prepared by the Works Progress Administration, working in the Bureau of Foods, Drugs and Hotels of the State Department of Health, under official Project Number 0-115-9862, lists 165 preparations which have been or are now being sold as treatments or preventives for pneumonia. Of these preparations 98 are recommended for external use and 67 for use internally. The period covered by this file extends from 1908 to 1938.

The majority of the preparations for external use consist of liniments and salves having bases of petrolatum, kerosene and fats, such as stearin and other oils. Forty-nine per cent of them contain camphor; 31% eucalyptol; 47%, thymol, menthol, mustard, artificial oil of wintergreen and pine oil; 18%, turpentine.

Perhaps the most remarkable of the external "cures" for pneumonia, which was also offered for sale as a "cure" for malaria, peritonitis, Bright's disease, cancer and syphilis, was a concoction of sand and clay, with about 2% of animal charcoal. This product was sold in 1910 by one and the same manufacturer under two different names, with practically no difference in composition. Another product, sold in 1937, consisted of a twelve ounce can of chlorinated lime and a one ounce bottle containing eucalyptus oil, with a small percentage of sulphuric acid. This preparation was labeled "An effective remedy and cure for colds, bronchitis, flu and pneumonia in man and also in poultry and hogs". A third product, offered for sale in 1922 by a manufacturer in Missouri and again in 1921 by a manufacturer in Ohio consisted almost entirely of clay and tar with an additional small amount of boric acid in one case. This product claimed in both instances to be an efficient remedy for pneumonia, lung trouble, boils, piles, ulcers, congestion of the lungs, typhoid fever, diphtheria and acute inflammatory rheumatism.

The internal pneumonia "cures" were chiefly of the plant extractive type containing alcohol. In

some cases, these so-called "cures" were of the cough syrup variety, containing ammonium salts, chloroform or creosote. Thirty-seven percent contained plant material; 17% aloe, a laxative drug; 33%, alcohol; while 15% of the concoctions contained chloroform and creosote. Other types of ingredients entering into these internal "cures" were calcium salts, iron, sugar, tar, turpentine, magnesium sulphate, essential oils, camphor and cinchona salts.

One of these internal "remedies", sold in 1927, contained 91% milk sugar, together with talc, a trace of nitrogenous material and a very faint trace of radium. This product was offered as a treatment for pneumonia, fibroid tumors and all diseases caused by overwork and as a rejuvenator for man and woman. Another internal preparation, offered for sale in 1923, claimed to be a "cure" for pneumonia, whooping cough, typhoid fever, diphtheria, tuberculosis, appendicitis, peritonitis, cancer and syphilis. This product was in tablet form and consisted of 93.6% sugar of milk, with a trace of animal charcoal.

The so-called external "remedies" have, of course, no effect except as counter irritants when rubbed upon the chest wall or in the vaporization of the essential oils. The internal "remedies" are worse than valueless, in that they do no good in themselves, are frequently dangerous and oftentimes serve to delay proper treatment until it is too late for even such treatment to be effective.

When large elements of the population pin their faith on this type of medication for the prevention or cure of pneumonia, it is small wonder that the disease occupied fifth place among the causes of death in the United States as a whole in 1937. In Kentucky, in the same year, the death rate from pneumonia was second only to that from diseases of the heart.—*Kentucky Bull. Dept. of Health.*

#### ERADICATION OF BOVINE TUBERCULOSIS

The eradication of tuberculosis from cattle in the United States is said to be the finest demonstration of tuberculosis control that the world has ever known. North Carolina has the distinction of being the first accredited State, and this is one of the firsts of which we should be proud. We are indebted to Dr. William Moore our State Veterinarian, and his associates for this distinction. North Carolina became accredited in 1928, and gradually all of the other States have followed suit until now all are accredited except California, and the eradication has been completed in all but 14 counties of California. To become accredited the State must have not more than one-half of 1% of its cattle showing a positive tuberculin test. Last year Dr. Moore and his assistants tested 32,374 cattle, with only 3 positive reactors—one-tenth of 1%.—*So. Med. and Surg.*

### CASE NOTES

#### COCCIDIODES INFECTION IN ARIZONA —ALLERGIC FACTOR IN NODULES?

ORVILLE HARRY BROWN, M. D.

Phoenix, Arizona

In the last 20 years I have had a number of cases, perhaps a dozen, who seem to fit into the requirements, set up by Dickson, Smith, and others for the diagnosis of a coccidioides infection. The feature which brought the patients to seek medical

attention were erythemic nodules. My impression is that most if not all of the cases seen by me had low grade fever and were generally mildly toxic. The number of cases I may have had who did not develop the erythema nodosum I can only conjecture. If other local physicians have seen cases in proportion to my number, and further if a considerable per cent of cases have gone without medical attention, especially where erythema nodosa have not developed or have been ignored, the number of cases occurring in Arizona must make coccidioides infection a condition which we should recognize and learn more about.

I have recognized that making a diagnosis of erythema nodosum was comparable to naming a symptom and have endeavored to arrive at a diagnosis based upon etiology. The nearest cause I have been able to establish for the disease has been that it was of an allergic nature. And indeed my experience would tend to establish that there may be an allergic factor concerned in the production of the redish swellings beneath the skin—with the color showing through the skin.

In my early experience with the condition I had a great deal of difficulty in clearing it up and giving the patients relief. In certain instances the erythema nodosa may be made to disappear within a short time, but other allergic manifestations may be difficult to control so that the patients are free of annoying symptoms. Two cases now under treatment will serve to illustrate the suspected allergic factors in the individuals, with coccidioides infection.

A male, 34, came to the office May, 1936, complaining of indefinite pain in the right lower quadrant of his abdomen with a considerable amount of intestinal gas. He had slight tenderness and muscle spasm but scarcely enough to make us conclude to do an appendectomy, although this was contemplated. He was put upon a diet, slightly different from what he usually used, of foods easily digestible and was given citric acid to take with his meals. His trouble promptly disappeared. In February of 1938 he appeared again. He had an eczema of a small area of his legs and scrotum. The suspicion then was that the lesion was the result of sensitivity to cotton. By skin tests he was found sensitive to cotton, flaxseed, orris root, silk and certain molds. He was slightly sensitive to rayon. He was instructed, however, to wear rayon underwear as being the least likely to harm him. Cotton, silk, rayon and the other materials to which he was found sensitive were diluted into a vaccine which was given him in small doses over a period of several months about two doses a week. The eczema soon disappeared. In May of 1938 he developed erythema nodosum and suffered extreme malaise and felt feverish. In line with my previous experience I regarded this as an allergic phenomenon. We continued with the vaccine he had previously had and gave him a stricter diet based upon my "Food-Addition Method", and in the course of a short time the erythemic nodes were gone and he has had no more. He was skin tested to foods



and he reacted to about 60 of them to a degree which we thought indicated he should not eat them for a time. His red spots did not disappear, however, with the same rapidity that had prevailed in other cases, and I was caused to wonder if there were not some factor which I was overlooking. Within the last two weeks I have obtained through the kindness of Dr. Charles E. Smith of the Public Health Department of Stanford University, the coccidioides test material. His reaction is mildly positive; the red area after 48 hours was about 15 mm. in diameter; the redness and the induration were not intense. I suspect that he had a coccidioides infection at the time he had the erythema nodosum. A small group of patients who have had no erythema nodosum and who have been tested for sensitivity to the coccidioidin gave definitely less reaction to it than he did. This man had long driven a street sweeper and this could likely be his source of infection.

A second case, a female, 64, came in January 19, 1939, because of lumps on her legs and generalized swelling of her legs, ankles, and feet. She had extreme, malaise and felt feverish; she felt hardly able to keep at her work. Her temperature was not taken. I was still thinking of the condition as an allergic response to foods or other material she had contacted. She was placed upon a fresh meat diet with dilute hydrochloric acid to take with her meals and in four days' time her erythema nodosa were entirely gone and she felt immensely better. On March 26, 1939, I placed a coccidioidin test upon her arm and she almost immediately had a hive which measured 15 mm. across and in 48 hours had a swelling which measured 45 mm. across and was raised and indurated to a depth perhaps as great as the diameter of the nodule. It was warm as compared with the surrounding tissues. A general swelling of the arm occurred. She felt sick just as she was, she said, while she had the nodules on her legs. I think there is little if any doubt about this having been a definite case of coccidioides infection. The rug in the office where she worked had long been extremely dusty and this likely caused her infection.

The rapidity of her clearing up on a strict diet certainly indicates an allergic factor in the etiology of the erythema nodosum and that in this case sensitizations to food were probably concerned in causing the nodules. At any rate the nodules disappeared quickly when the patient was placed on a radically different diet than that she had been eating. This, I repeat has been my experience with all other cases whom I have treated.

**Conclusion:** Coccidioides infection probably exists in Arizona; a number of cases should be found each year if the physicians are thoroughly aware of its existence.

My experience indicates that the nodules of the coccidioides infection are an allergic response not only to coccidioidin but to various materials which a patient contacts.

Professional Bldg.

## NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

**Antipneumococcic Serum, Refined and Concentrated, Types I and II.**—An antipneumococcic serum (New and Nonofficial Remedies, 1938, p. 399) prepared by immunizing horses with intravenous injections of the virulent and avirulent cultures of type I and II pneumococci. The serum is refined and concentrated by the method of Lloyd D. Felton. The concentrated product contains type I and type II pneumococcus antibodies. Sterility tests are carried out in the manner prescribed by the National Institute of Health and safety tests are carried out by injection into white mice and guinea pigs. The product is marketed in packages of one syringe containing 10,000 units each of type I and type II, and in packages of one syringe containing 20,000 units each of type I and type II pneumococci, each accompanied by a vial of dilute serum for the sensitivity test. The Gilliland Laboratories, Inc., Marietta, Pa.

**Elixir Amytal, 2 grains per fluidounce.** Amytal (New and Nonofficial Remedies, 1938, p. 111), approximately 0.44 Gm. per hundred cubic centimeters, in a vehicle containing alcohol 30 per cent, glycerin, water and aromatics; methenamine, 2 grains per fluidounce, is present for the purpose of increasing the solubility of the amytal. Eli Lilly & Co., Indianapolis, Ind.

**Elixir Amytal, 4 grains per fluidounce.** Amytal (New and Nonofficial Remedies, 1938, p. 111), approximately 0.88 Gm. per hundred cubic centimeters, in a vehicle containing alcohol 34 per cent, glycerin, water and aromatics; methenamine, 4 grains per fluidounce, is present for the purpose of increasing the solubility of the amytal. Eli Lilly & Co., Indianapolis, Ind. (J.A.M.A., March 4, 1939, p. 843)

**Epinephrine, U. S. P.—Upjohn.** Marketed in vials containing epinephrine (New and Nonofficial Remedies, 1938, p. 230) 0.065 Gm. (1 grain). Upjohn Company, Kalamazoo, Mich.

**Solution Epinephrine 1:1000—Upjohn.** Each cubic centimeter contains epinephrine (New and Nonofficial Remedies, 1938, p. 230). 1.0 mg., sodium chloride 7.0 mg., sulfur dioxide (as sulfurous acid) not more than 0.6 mg., chlorobutanol not more than 5.0 mg., dissolved in distilled water saturated with carbon dioxide. It is marketed in packages of 1 c.c. ampules and 30 c.c. vials. Upjohn Company, Kalamazoo, Mich.

**Scopolamine Hydrobromide—Merck.** A brand of scopolamine hydrobromide-U.S.P. (New and Nonofficial Remedies, 1938, p. 377). It is marketed in the form of crystals and powder in vials of 1, 5 and 15 grains. Merck & Co., Inc., Rahway, N. J.

**Ampuls Caffeine with Sodium Benzoate, 2 c.c.** An aqueous solution containing in each 2 c.c. caffeine with sodium benzoate-U.S.P. (New and Nonofficial Remedies, 1938, p. 150) 0.5 Gm. (7½ grains). The Maltbie Chemical Co., Newark, N. J.

**Thiamin Chloride—Abbott.** A brand of thiamin chloride-N.N.R. (THE JOURNAL, July 16, 1938, p. 253). It is marketed in the form of tablets 0.33 mg., 1.0 mg., and 3.3 mg., containing 100, 300 and 1,000 international units of thiamin chloride, respectively, and in the form of ampoules 6.66 mg., 1.0 mg., 1 c.c., and 10.0 mg., 1 c.c., containing 2,000, 300 and 3,000 international units of thiamin chloride,

respectively. Abbott Laboratories, North Chicago, Ill.

**Solution of Formaldehyde-Merck.** A brand of solution of formaldehyde-U.S.P. (New and Nonofficial Remedies, 1938, p. 248). Merck & Co., Inc., Rahway, N. J.

**Bismuth Subsalicylate in Oil Suspension.** A suspension of bismuth subsalicylate (New and Nonofficial Remedies, 1938, p. 142) in peanut oil, each cubic centimeter containing 2 grains (0.13 Gm.) of bismuth subsalicylate, U.S.P. (equivalent to 75 mg. of Bi metal) and 0.03 Gm. (3 per cent) of chlorobutanol. Marketed in bottles containing 30 c.c., 60 c.c. and 100 c.c. Diarsenol Company, Inc., Buffalo, N. Y.

**Procaine Hydrochloride—The Upjohn Co.** A brand of procaine hydrochloride-U.S.P. (New and Nonofficial Remedies, 1938, p. 74). The Upjohn Company, Kalamazoo, Mich.

**Ampoule Solution Procaine Hydrochloride 1/2% with Epinephrine, 5 c.c.** Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938 p. 74) 0.005 Gm.; epinephrine, 0.05 mg.; sodium bisulfite, 1.6 mg.; benzoic acid, 0.06 mg.; sodium chloride, 8.5 mg.; normal hydrochloric acid, 0.0007 c.c.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

**Ampoule Solution Procaine Hydrochloride 2% with Epinephrine, 1 c.c.** Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938, p. 74) 0.02 Gm.; epinephrine, 0.05 mg.; sodium bisulfite, 2.6 mg.; benzoic acid, 0.3 mg.; sodium chloride, 8.3 mg.; normal hydrochloric acid, 0.0016 c.c.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

**Ampoule Solution Procaine Hydrochloride 2% with Epinephrine, 3 c.c.** Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938, p. 74) 0.02 Gm.; epinephrine, 0.05 mg.; sodium bisulfite, 2.6 mg.; benzoic acid, 0.3 mg.; sodium chloride, 8.3 mg.; normal hydrochloric acid, 0.0016 c.c.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

**Solution Procaine Hydrochloride 1% with Epinephrine, 30 c.c. Vials.** Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938, p. 74) 0.01 Gm.; epinephrine, 0.02 mg.; sodium bisulfite, 2.1 mg.; benzoic acid, 0.2 mg.; sodium chloride, 8.4 mg.; normal hydrochloric acid, 0.00125 c.c.; chlorobutanol, not more than 5 mg.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

## BOOK NOTES

**SURGICAL TREATMENT OF HAND AND FOREARM INFECTIONS.** By A. C. J. Brickel, A. B., M. D., Department of Anatomy and Surgery, Western Reserve University. Price, \$7.50; pp. 300, with 166 text illustrations and 35 plates, including 10 in color. The C. V. Mosby Company, St. Louis, Mo., 1939.

"There is no such thing as a trivial cut or infection of the hand." This is an axiom which Dr. Brickel has demonstrated throughout this most remarkable text. If this principle is followed conscientiously by both the physician and the general public, fewer deformities and losses are to be expected. Unfortunately the education of the public along these lines is rather difficult and slow. On

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### Example

**Baby's Weight**  
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**PRESCRIPTION**  
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10 ozs. Water  
10 measures HYLAC

**Baby's Weight**  
**12 lbs.**

**YOUR**  
**PRESCRIPTION**  
18 ozs. Milk  
12 ozs. Water  
12 measures HYLAC

(a 4-gram measure is contained in each can of HYLAC)

### Result

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the other hand, the axiom should be well known to any surgeon of experience and he should be anxious to equip himself adequately to cope with the problem at hand. This excellent treatise provides that equipment—a knowledge of what to do and when to do it.

Every phase of infection of the fingers, hands, and forearm is covered concisely, accurately, and illustratively. There are a total of 35 plates, 10 of them dissection plates, in color, with accompanying illustrative drawings. There are also a large number of x-ray plates of the hand following injections of the various sheaths and spaces with radiopaque

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This text is an excellent original approach to the subject. It is beautifully printed and there is not a wasted word in it. In this day, when medical volumes are appearing in profusion, it is one of the "must have" books—it belongs in every surgeon's library.—*R. B. H., Jr.*

**SURGICAL ANATOMY.** By C. Latimer Callander, A.B., M.D., F.A.C.S., Associate Clinical Professor of Surgery and Topographic Anatomy, University of California Medical School; Member of Founders' Group of the American Board of Surgery;

Member of American Association of Traumatic Surgery; Associate Visiting Surgeon to the San Francisco Hospital. With a foreword by Dean Lewis, M.D., Sc.D., LL.D., F.A.C.S. Second edition, entirely reset. 858 pages with 819 illustrations. W. B. Saunders Company, Philadelphia and London, 1939. Cloth, \$10.00 net.

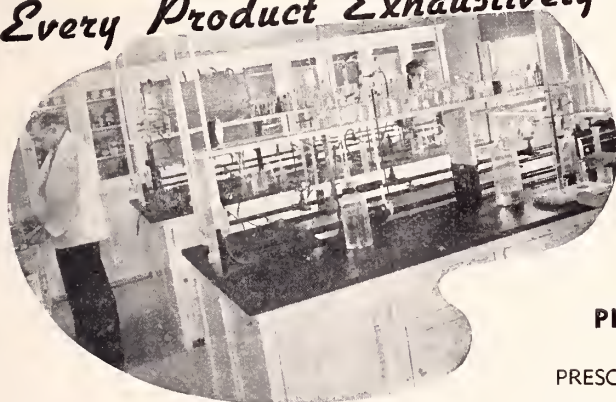
This is the first revision of one of the top notch English language text books on surgical anatomy. Much of the text has been rewritten. Certain illustrations have been discarded, but many line drawings have been added. The work has been brought up to date with the addition of much valuable information concerning neuro-surgery. The illustrations, as in the first edition, are remarkable in their detail, conception, and clarity.

The book would hardly make a surgeon out of a blacksmith, but it is extremely difficult to see how any surgeon worthy of the name could fail to reap high benefit from the constant use of this text. This is one book that should never gather dust in any surgeon's library. It certainly sets a lofty standard for the other works of its type.—*S.*

**INTERN'S HANDBOOK.** By members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, M.D., Chairman Publication Committee. 523 pp. with index. Cloth. Second edition. J. B. Lippincott Co., Philadelphia, 1938.

The first edition of this valuable little guide to diagnosis and treatment was published nine years ago. It was of great help to those interns who were so busy taking histories and treating emergencies that they had little time to consult text-

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**ANEMIA IN PRACTICE.** (Pernicious Anemia.) By William P. Murphy, A. B., M. D., Associate in Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston; Consultant Hematologist, Melrose Hospital, Melrose, Mass. W. B. Saunders Company, Philadelphia and London.

Anemia is a subject of common interest to all physicians regardless of their specialty.

The author, for several years recognized as an authority on both the clinical and scientific aspects of the subject of anemia presents his personal views of the pertinent facts of this important subject in a concise, clear, and interesting manner. Moderate reference to the literature is made with a bibliography following each chapter.

Approximately one-fourth of this volume is utilized in the classification as well as the differential diagnosis of the hypochromic anemias and normocytic anemias. These types are discussed under separate classifications. Detailed description of treat-

ment with the advantages to be obtained by combined use of liver and iron therapy is emphasized. Other essentials of treatment with their limitations are included.

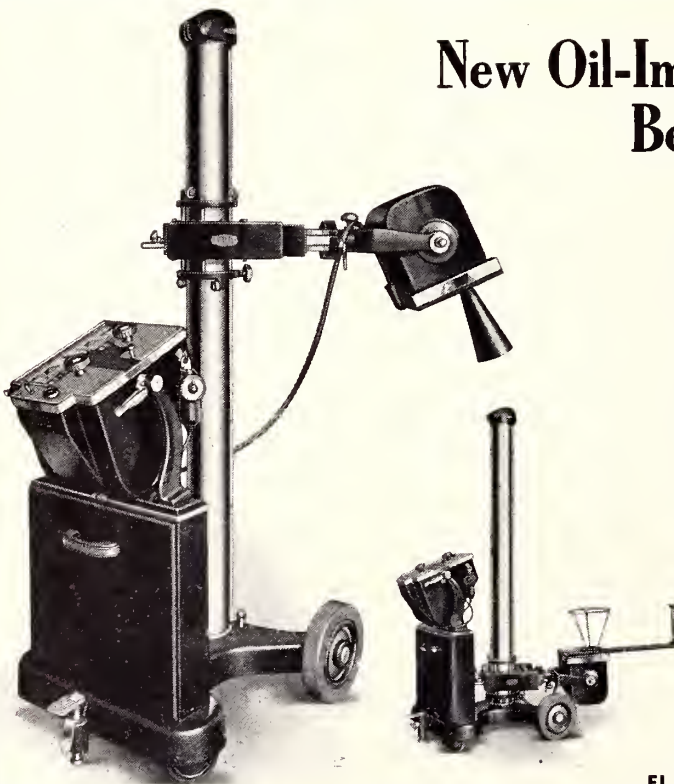
In the chapter on normocytic anemia a limited number of case histories are included suggesting the early recognition and evaluation of certain symptoms. To the long list of drugs producing anemia under this classification is added sulphanilamide. The chemicals producing industrial hazards are also included.

The second and major portion of this book is opened by an interesting historical summary of pernicious anemia which was formerly such a distressing and hopeless disease. We are reminded of the lack of important contributions to this subject for a quarter of a century prior to the epoch-making presentation by Minot and Murphy regarding liver therapy. The cardinal principles of early diagnosis prompt vigorous treatment with whole liver or an effective substitute and an admonition to maintain throughout the duration of life, treatment adequate for each patient's needs, are stressed by the author as the secret of the successful treatment of the patient with pernicious anemia.

Although five chapters are devoted to liver therapy, the subject matter is so divided that only the material which particularly appeals to an individual need be reviewed. The chapter on liver therapy in practice is thorough and concise.

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itioner to find the subject of this important disease virtually introduced by a discussion of the treatment and clinical symptoms leaving the technical consideration of incident and etiology to consume those idle moments which seldom come.

The complications and associated diseases are thoroughly discussed and clarified by the inclusion of case histories which are also utilized to emphasize common errors in diagnoses.

The volume is concluded by a timely discussion on the subject of transfusion of blood with particular emphasis on the indications for and effects of transfusions including a discussion and classification of the types of reaction occasionally encountered.—J. J. G.

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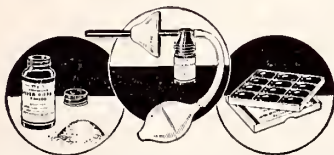
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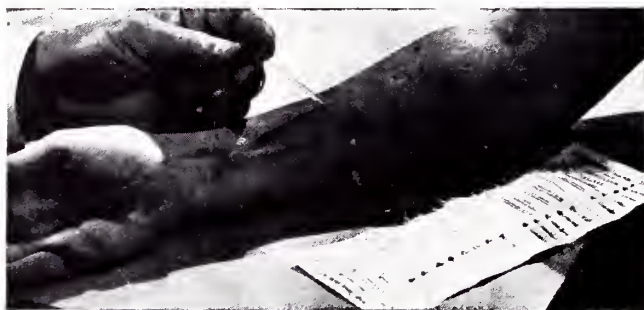
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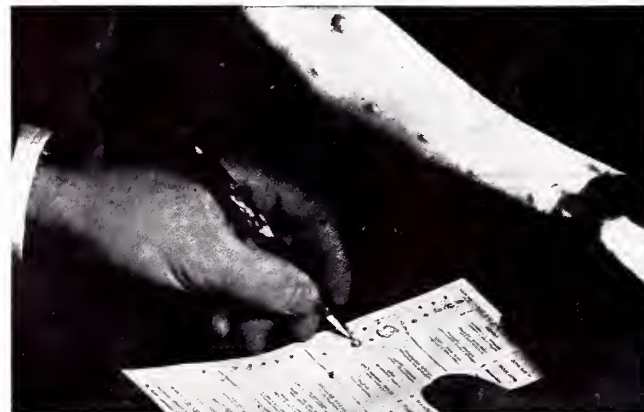
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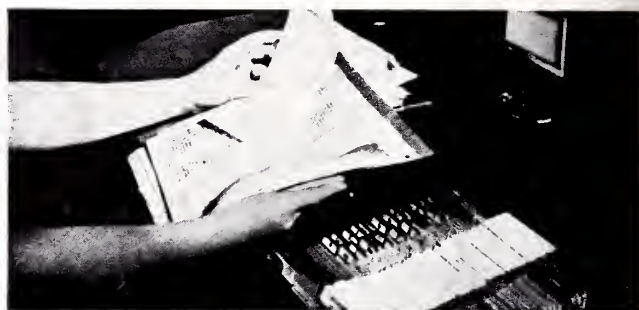
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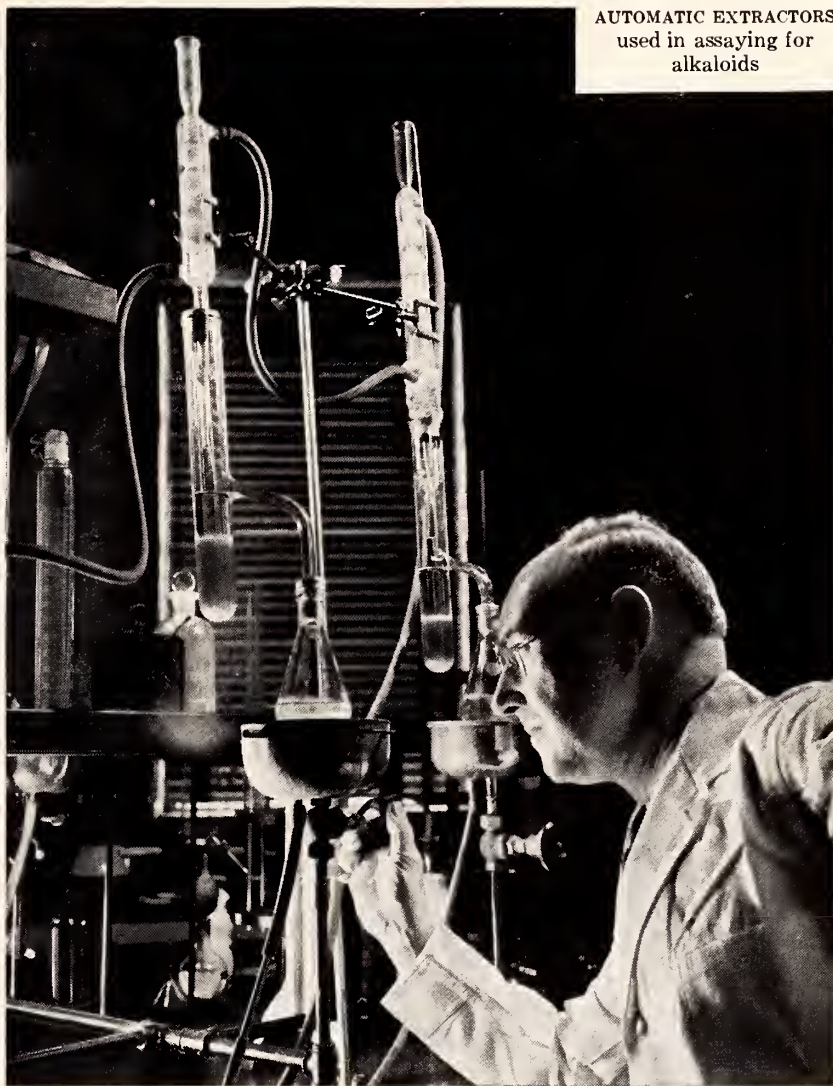
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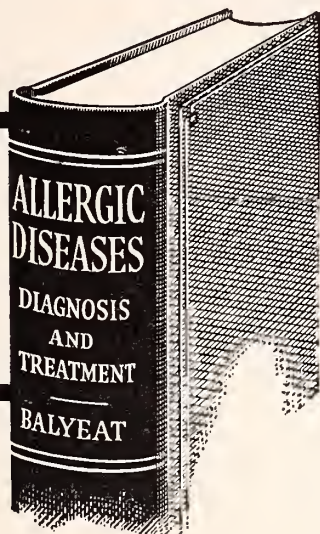
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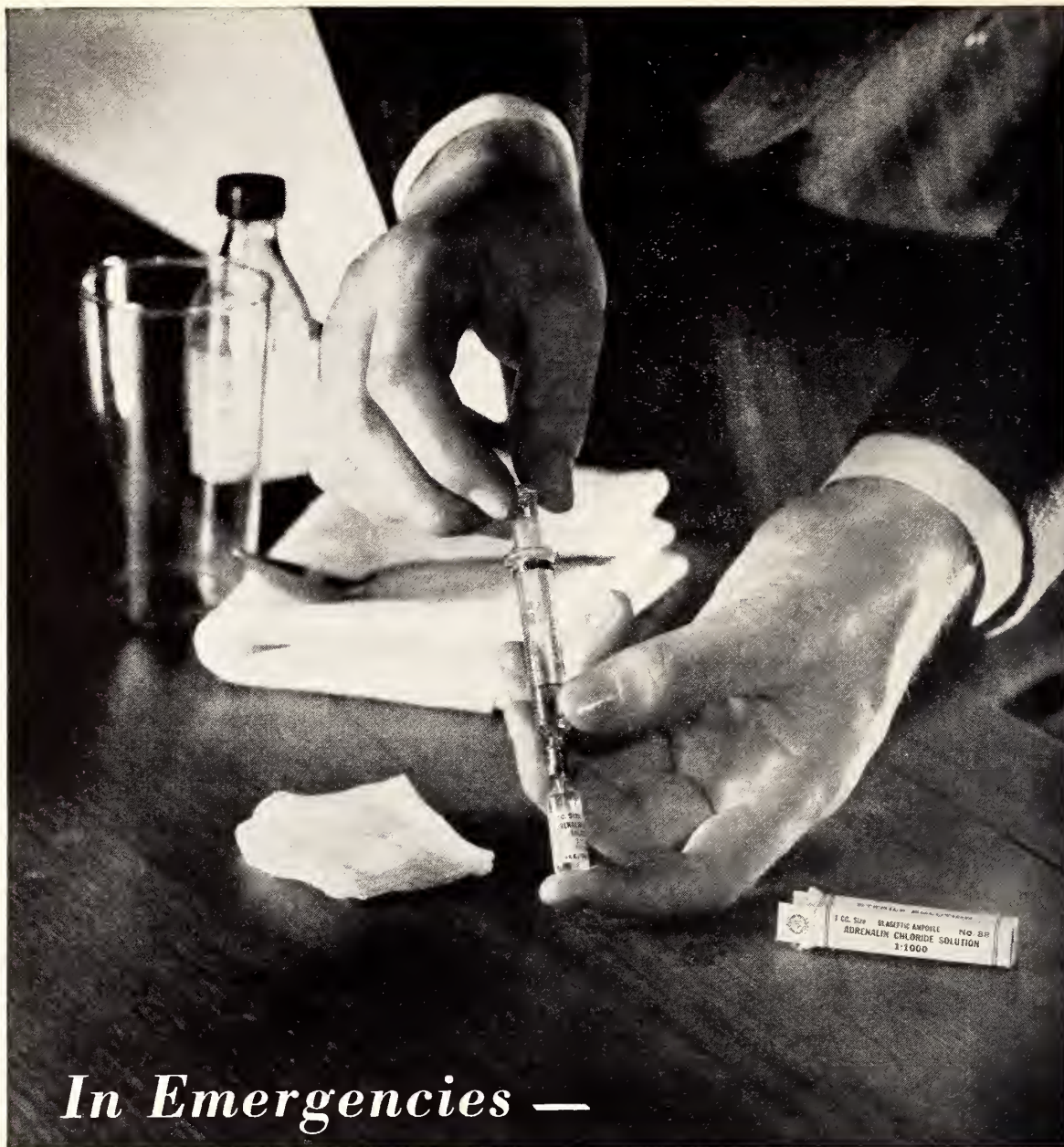
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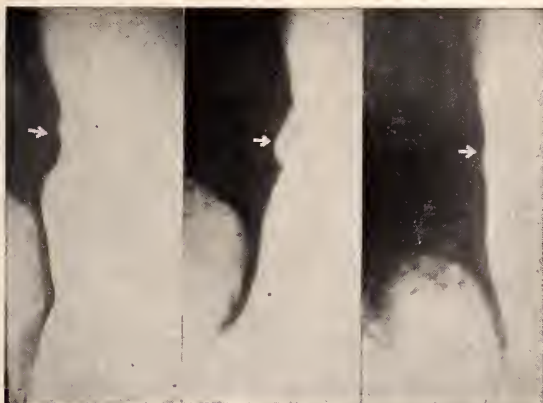
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VOL. XXIII

EL PASO, TEXAS, MAY, 1939

No. 5

## Medical Care in New Mexico

GEO. T. COLVARD, M. D.

*Deming New Mexico*

IN ACCEPTING the presidency of the New Mexico Medical Society I do so with a realization that many and diverse influences are to be encountered and that some solution must be offered if organized medicine is to be continued on its high plane of the social order of the present day. Consideration of some of these problems with some suggestions for meeting them will be the object of this paper.

Primarily the ever-present and portentous threat of subsidized or "State Medicine" will be considered. Heralded by the majority of the press and advanced by government agencies as a panacea for the supposed inadequacy of medical care, subsidization of our profession stares us in the face. The ballyhoo type of publicity is arousing the public's interest and obtaining a reception for which no logical basis or reasoning can show cause. Probably not 10 per cent of the press attempts to even show two sides to the question. Any attempt to show the evils and inefficiency of the panel system of medicine is promptly soft-pedaled. "Freedom of speech," long an alien of this country, is justly defended by members of the organized press, but were the same subsidization of the press attempted which is being proposed now for medical care, long and indignant protests would be heard. "Freedom in the choice of doctors," selection of hospitals and exercise of personal opinion in such matters are as basic in the principle of Americanism of today. The medical profession is represented as a weak, infirm, old patient so badly in need of treatment that a paternalistic government must offer the cure-all, the said cure-all being a dollar-encrusted pill coated with smooth-spoken plans to be administered by a layman-controlled social service mark in the guise of a nurse.

In our own state presented to the last legislature was a bill or bills providing for purchase of sound trucks to further educate, broadcast and spread more "ballyhoo" over the state presumably. Recommendations for some twenty additional health officers and sanitarians for taxpayers' support would scarcely be justifiable looking at the present condition of our taxpaying public. It would not seem amiss to urge members of the Public Health Department to remember that primarily they are

members of the medical profession, and we are ever willing to help them solve their problems by mutual discussion and advising each other and the public will best be served by such an approach rather than by forcing methods through via of legislative channels.

All proposals for state or socialized medicine have as their basis the supposed "inadequacy of indigent medical care." We resent the existence of inadequacy to any other than a local extent. One important fact which should at once be realized is that the poor person in the United States of America receives more efficient and extensive medical care than the poor of any nation.

Realizing that conditions which would require one solution or "plan" for indigent medical care in New York would probably not be the proper solution to New Mexico's widely scattered population, I propose that the House of Delegates of this society select a committee on "Medical Care and Economies" fully authorized to act for, and endeavor to present, a workable solution to the agencies concerned with indigent services. We, as representing organized medicine, must take cognizance of a situation before we have socialized medicine in one of its forms legislated down our throats. I believe it is also the professional courtesy and duty of our State Department of Public Health to offer our society their plans and proposals to the legislative committee, which will extend its full co-operation and support after mutual discussion has proved the wisdom and soundness of such proposals.

One of the other existing problems of state-wide interest is the laxity of existing state laws which has allowed and is continuing to permit the entrance into New Mexico of practically any person practicing the healing arts. Little or no requirements exist and the public unsuspectingly and with full confidence enters an office in this state with no protection or knowledge of the occupant's qualifications or whether he is a cultist, quack or a thoroughly trained practitioner of the healing arts with a college background. The legislative committee's only successful accomplishment was the defeat of the proposed "licensing" of one of these so-called healing professions.

Being a member of this committee this past few months has served to show the apathy existing



among our own ranks towards support of the passage of a basic science law. If this apathy is to continue, I believe that we should cease any efforts and divert our funds to a more production source. It should be said to our own detriment that other groups composed of a fractional part of our number continue to out-manuever and out-smart us. If our legislative committee doesn't have the support of the rank and file no success will attend our efforts.

On the bright side of the picture the constantly increasing span of life, the marked progress in the treatment of diseases, and increased efficiency in prevention of diseases, are ample evidence of our profession's progress and development.

In conclusion, may I state my firm conviction that all these problems and conditions will be met and solved by an interested and aroused organized medical profession, and express the wish that may God speed the day.

## Bronchography in the Diagnosis of Pulmonary Disease

VICTOR STRONG RANDOLPH, M.D.

*Phoenix, Arizona*

**I**N THIS paper the lung is considered as a whole, including the alveolar portions and the bronchial tubes.

In 1897 Cannon used an opaque food in the study of the stomachs of dogs. Probably in the same year Leonard used opaque materials in the study of stomach of man. Some ten years later Volcker of Germany in making studies of the bladder with opaque liquid found that in one case the fluid had passed up the ureter and this led to modern genito-urinary x-ray studies. Since that time contrast material has been used in the roentgenography of many portions of the body. Studies are now made of the sinuses, brain, spine, pelvic organs, and of late even studies of the blood vessels which clearly portray these structures. In 1924 Armand and Delle reported studies of the bronchial tubes after the injection of poppy oil containing 40 per cent of iodine by weight. The iodine was so intimately taken up with the oil that none of it was free. The use of lipiodol, as they called this oil, rapidly came into use for portraying an outline of the bronchial tubes.

### ANATOMY

The lung is constructed about the bronchial tube system. The trachea divides at its bifurcation into two main branches, which subdivide into two principle tubes leading to the left lung and three leading to the right. These subdivide into several larger branches, which, in turn, subdivide and eventually terminate in the alveoli of the lung. The bronchial tubes leading to the lower lobe of each lung come off at a small angle which permits material in the trachea to gravitate readily into the lower lobes. The right lower bronchus turns at a smaller angle than the left; therefore material gravitates more readily into the right lower bronchus than into the left. Nevertheless, by tilting of the body towards the left side the left bronchus is easily filled. In the early work with lipiodol the injections were done mainly into the lower lobes because of the easy filling on account of the angle. However, as time went on it was found that by tilting the body in the preferred directions it was possible to cause the

lipiodol to gravitate into almost any desired part of the lung.

### PROCEDURE

Several methods of procedure have been employed. One of the early methods was injecting through a needle into the trachea through a stab wound or directly through the skin just below the level of the larynx. However, this has largely been abandoned because of inconvenience to the patient and because of some danger. Another method was the introduction of a catheter through the trachea. This was and still is used a great deal. A recent improvement in technique has made it the one of choice in certain cases. The use of this method is possible only after the larynx has been thoroughly anesthetized. The method in much more common use and one which we have used since 1928 is the direct injection of lipiodol into the trachea by dropping it through the larynx. This is the so-called supra-glottic method. The pharynx and larynx are anesthetized; the oil is then dropped into the trachea through the larynx by a canula, the tip of which is held just behind the base of the tongue. In several cases it has even been possible to inject the oil without anesthetizing the throat at all. However, anesthetic must usually be used, and we have been in the habit of using a 2 per cent Butyn solution and at times a very small amount of 5 per cent or 10 per cent cocaine in patients who are very nervous. By this supra-glottic method the lower bronchial tubes can be outlined by tipping the patient in such a way that the oil will gravitate into the desired portions of the lung, and after the lower tubes have been visualized it is possible by posture to cause the oil to flow into other parts of the lung.

### CONSIDERATIONS AND CASES

Let me demonstrate briefly the difference between the normal and the abnormal bronchial tubes. On the right side after bifurcation of the trachea the main bronchial tube narrows very gradually; it then divides into other tubes and these in turn as they spread farther away from their beginning gradually narrow and the smaller tubes taper off into very fine points ending in the tiny terminal bronchioles which enter into the alveoli or air sacs.

On this right side we find that the bronchial tubes are practically normal. However, on the left side we see that the tubes do not narrow steadily and taper gradually as they should, but that in one at least of the lower portions there is a very wide dilatation. In this case, in other words, we have bronchiectasis, a term meaning dilatation by stretching of the bronchial tubes. We know that the stretching is due to weakness in the tube caused by infection. This weakened bronchial tube having been subjected to the abnormal air pressure of coughing over a long period of time has gradually stretched and become larger than normal. There is then set up a small reservoir in which pus can form. This in turn causes more coughing, and as time goes on the condition may extend to other bronchial tubes as well as spreading locally.

The early importance, and I believe the present chief importance, of the use of lipiodol is in the differentiation of disease of the alveolar portions of the lung or the so-called parenchyma from disease purely of the bronchial tubes. A case in point is that of a woman 39 years old, a patient of my associate, Dr. Holmes, who had not been well, she said, for five years. She came to the office complaining of cough and expectoration, at times rather profuse; a loss of over 20 pounds in weight; fever, and some tiredness. Physical examination showed some impairment of resonance in the upper portions of both lungs, but no rales. Sputum was negative for tubercle bacilli. X-ray examination showed some areas of shadow around about the hilum and definite calcified spots indicating that there had been at some time a tuberculous infection. No definite areas of parenchymal disease were shown. From a clinical standpoint the diagnosis of tuberculosis could not be made. However, x-ray examination after lipiodol demonstrates conclusively that there is present some widening of the bronchial tubes, particularly the larger branches, and does demonstrate definitely that the patient's symptoms are due to bronchial disease rather than to any pulmonary disease. In this case, and it is true of many who come to us, the definite diagnosis leads to freedom of mind of the patient as regards tuberculosis and saves her from futile weeks or months in bed for treatment of a supposed tuberculosis. For we know that the pursuit of bed rest in a case of disease of the bronchial tubes is not the proper course. These patients are better up and about than they are in bed.

A case in which the history more or less definitely indicates bronchiectasis is the following, again one of Dr. Holmes', a woman at the age of 36, whose complaint was cough, sputum and hoarseness. She gave a history of broncho-pneumonia five years ago and of chronic sinusitis. These two conditions are probably among the most common forerunners of bronchiectasis. I think that a definite relation between sinus infection and bronchiectasis has been established. In this case there was also a history of frequent colds. Two years before being seen an

abdominal operation was performed under ether anesthetic, following which there was an increase in the cough and sputum. Physical examination in this case did not show anything definite except a few rales at the left base in back. Plain x-ray film does not show any very definite lesions in the chest, but the x-ray film made after lipiodol injection shows that there is definite diffuse dilatation of the lower bronchial tubes in both sides of chest. This, we speak of as a tubular or cylindrical type of bronchiectasis. This patient cannot be given much hope ever of being free from cough and sputum, as the changes of the bronchial tubes of this degree are more or less permanent. She must, however, avoid colds, have the greatest care in operative procedures and avoidance of ether, and must have the sinuses properly taken care of to avoid extensions. Some improvement of symptoms may occur with various types of medical treatment.

In the two cases I have shown it is impossible to tell by physical examination or history or any method other than lipiodol injection whether the disease is on one side of the chest or on both sides of the chest. When the disease is present only on one side of the chest or only in one lung, cure may be obtained for the patient by means of surgery. The removal of one lobe of the lung, or at times of one lobe from each lung in two successive operations, has been successful in bringing about a cure of symptoms of bronchiectasis. However, the latter is not usually the procedure of choice.

A high-school boy, age 17, was seen in November, 1937, because of cough, expectoration, exhaustion and loss of weight. He gave a history of having had pneumonia Sept. 13, 1937. He recovered very slowly from this and was never entirely well. He began to cough and expectorate a large amount of material which was often foul. Physical examination showed rather marked dullness at the left base posteriorly, with diminished breath sounds and voice sounds, no rales. Sputum examination showed no tubercle bacilli, but streptococci and pneumococci. Blood examination showed hemoglobin 80 per cent; white cells, 23,800; polynuclears, 87 per cent. This patient was considered to have an abscess in the left lower lung. Bronchoscopy was first advised and refused. He was put on supportive treatment, kept quietly in bed for a time, but his temperature dropped to normal and he was later allowed to be up and about. After some months of delay in accepting any treatment other than medication he was persuaded to have a lipiodol study made. This demonstrates conclusively the presence of large bronchiectatic sacculations in the lower posterior left lung. This boy continues to cough and expectorate, and will not be well until surgical excision of the posterior portion of the left lung is done.

A man 37 years old consulted me because of cough and expectoration which he had had all his life. He had pneumonia several times when he was a small child, and throughout his life had been sus-



ceptible to colds and had had during the past few years attacks of so-called "flu" every year or so. However, despite these illnesses he had worked steadily and had come to hold an excellent position in the business world. His weight had been good and he had been active, doing most of the things he enjoyed. In this case examination shows dullness almost throughout the left side and distant coarse rales scattered through the left lung. The right lung appears to be normal except that there is some impairment of resonance at the right base. Physical examination is fairly definite for disease of the left side of the chest, but it is impossible to say from the physical examination alone what the type of disease is. From the history we would conclude that this man probably has a bronchial infection which has been present since childhood and that he probably has bronchiectasis. However, we were enabled by a lipiodol study of the chest to prove that the condition present is bronchiectasis, and that it is an extensive disease involving the whole of the left lung. This is a saccular type of bronchiectasis and we would conclude from the x-ray films that there is probably very little functioning lung tissue on this left side. We cannot tell, of course, whether the bronchiectasis in this case may not be a congenital condition. We know that rarely children are born with bronchiectasis already established. However, the recurrence of frequent attacks of pneumonia in childhood would have been sufficient to bring about this condition. In this case at a subsequent sitting we injected the lower portion of the right lung and find that it is practically normal. This case reveals that pneumonectomy, or removal of the left lung entirely, is the only method of cure open to the patient. This is a serious procedure in a man of 37, but nevertheless, we know pneumonectomy has been accomplished many times successfully although usually in younger persons.

#### VALUE OF BRONCHOGRAPHY

Bronchography is often of value in the diagnosis of diseases of the parenchyma of the lung. In lung abscess it is not usually possible by the ordinary methods to inject with lipiodol the abscessed cavity. In these cases the bronchi leading to the abscess are often occluded by inflammatory material or fibrin, and one can demonstrate with lipiodol this occlusion. Occasionally when these bronchi are cleared out the abscess may be injected. The value of lipiodol in these cases then may be said usually to be indirect by showing bronchial narrowing or obstruction, and, of course, the diagnosis must be made by correlation with other studies.

A similar indirect value lies in the bronchial injection in cases of malignancy of the lung. The majority of pulmonary malignancies arise from the bronchial structures and often a closure of the tube or tubes affected is present. Here again the diagnosis lies in correlation of other studies with the demonstration of an occluded bronchus. In one such case in which a diagnosis of primary carci-

noma of the left lower lobe was made, injection of lipiodol showed a complete stoppage of the left main stem bronchus. Later at post mortem examination some of the lipiodol was recovered from the bronchus where it had been injected and never expectorated.

In the field of tuberculosis particularly, injection of the bronchi and through them portions of the lung field may be of considerable value in diagnosing the presence or absence of cavities. In this connection I will mention a newer method of introduction of lipiodol which was devised in 1936 by Drs. Thompson and Gordon of the Tuberculosis Services of the Metropolitan Hospital and Sea View Hospital, New York. This method goes back to the older idea of introduction of a catheter. These doctors have devised a catheter with a curved tip which holds its shape after introduction into the trachea. By properly placing the angle of the tip of the rubber catheter one can enter either of the upper main bronchi or the right middle lobe bronchus or the lower bronchial tubes, and then through the catheter inject the lipiodol directly into the portion of the lung which it is desired to portray. This method is easily used if the larynx is completely anesthetized before introduction of the catheter. Cocaine may be used, but a milder anesthetic called Larocain, which has the properties of cocaine but is non-toxic, has been used by the investigators. I think that Butyn is also a suitable anesthetic for this work.

Recently a physician, who has had tuberculosis for many years and has made marked improvement but has never become entirely well, was under my care for study as to whether or not he had still a cavity in the left upper lobe. Lipiodol injection by the ordinary method and by tilting the patient downward so that the upper left lobe might become filled with oil did not disclose a definite cavity, but did show some bronchial dilatation. Injection of the left upper lobe by the catheter method does show a small pocket which is a cavity. In the x-ray film it is noted that the oil failed to enter the very upper part of the left lung, and we therefore feel that there must be scar tissue involving the upper part of the lung where his original tuberculosis was. On the other hand, there was referred to me recently by Dr. Holmes a patient who has been under treatment by pneumothorax for a considerable time for excavation in the right upper lobe. A complete pneumothorax and a proper collapse of the upper lobe of this lung was not obtained, but it seemed that sufficient collapse was secured to improve the patient. He has done very well generally, but he continued to cough and expectorate some. The sputum was always negative for tubercle bacilli. In the plain x-ray film it seemed possible that there was still a cavity in the right upper lung of this patient. With the catheter in the right upper lobe bronchus the upper lobe is filled sufficiently so that we can see what appears to be somewhat dilated bronchial tubes in the area where we thought the

cavity might be present. We now feel that this man does not have a cavity and that his condition will improve as time goes on.

Following thoracoplasty for tuberculosis the injection of lipiodol may demonstrate to us the reason for failure of the operation to be a complete success. A girl, age 23, had very large cavities in the upper portion of the left lung. Five ribs were removed in two stages of thoracoplasty and the cavities were apparently obliterated. This patient made a very marked improvement, but continued to have some cough and sputum. The sputum was negative for tubercle bacilli. Lipiodol injection of the left lower lobe showed that this patient had extensive bronchiectasis of the left lower lobe. This might be partially eliminated by further surgical collapse of the chest, but the girl has improved to the point where she has very slight symptoms of her bronchiectasis and operation has been deferred. Her general condition is excellent.

The advantage of catheter injection over the supra-glottic gravity method is shown in a patient following thoracoplasty. This single young man, age 27, had tuberculosis of the left lung, marked cavitation in at least the upper half of the lung and atelectasis of the lower. Thoracoplasty was performed and excellent collapse from an anatomical standpoint was obtained. Nevertheless, the patient continued to cough and expectorate at intervals, and when not coughing and expectorating rather freely he had fever and was quite sick. It seemed evident that there was sputum in the lung which at times could not be expectorated because of blockage in the bronchial tubes. Lipiodol injection by the ordinary method shows this blockage in the left lower bronchus. With catheter inserted into the left main lower bronchus some injection of the bronchial tree below the point of observation was obtained, and we can now see some large bronchiectatic dilatations with narrowing of the main bronchus. Sputum is negative for tubercle bacilli, but this man is sick because of bronchiectasis in the left lower lung field, and inability to drain properly the pus which forms there. Entire removal of the lung will probably be necessary for cure.

Going back to bronchiectasis, the following case is of interest from the standpoint of thorough visualization of the whole bronchial tree with lipiodol

by the catheter method. This single woman, age 38, gives a history of pneumonia three times before the age of 12. She has had a great deal of sinus trouble and in 1936 a bilateral radical antrum operation was performed on the nose. She has always been troubled with frequent colds; has had cough and sputum most of her life. Physical examination shows some dullness at the bases of both lungs, and moist and sibilant rales at the bases. Lipiodol study by the ordinary method of injection shows bilateral bronchiectasis more marked on the left side. Injection with the catheter in the left upper bronchus shows a marked filling of the so-called lingula, or the lower portion of the left upper lobe. As this injection was made it was watched under the fluoroscope and the bronchial tubes in this area did not seem to be dilated, but as the injection proceeded this area became over-flooded and the bronchial tubes are not clearly shown. However, the left upper lobe bronchi are now seen to be small and free from dilatation. In this injection a small amount of the oil spilled over also into the right upper lobe. About one week later catheter was inserted into the right middle lobe bronchus and from this position practically all of the right bronchial tree was filled. In the lateral view the bronchi of the right middle lobe are clearly shown and seen to be free of disease. The right upper lobe bronchi are also small and free of dilatation or evidence of bronchiectasis. It is demonstrated then that this patient's bronchiectasis is confined probably entirely to the lower lobes of each side. It seems possible that this patient might be largely relieved of her symptoms or cured by removal of the two lower lobes. However, in spite of her continued cough and expectoration she is in good general health and is so comfortable that it has not yet seemed wise to submit her to surgery.

#### CONCLUSION

In conclusion I want to say that bronchography is an indispensable diagnostic aid to anyone who wishes to treat chest diseases. Its use, however, can be readily learned by any physician who wishes to take the trouble to familiarize himself with the anatomy of the pharynx and larynx and learn the ordinary supra-glottic method of lipiodol instillation.

Professional Bldg.

## Appendiceal Abscess Producing Obstruction of the Sigmoid Colon

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**N**O MATTER how many cases of acute appendicitis one observes or operates, each case holds something different. It is this phase of a common subject that keeps the medical and surgical profession interested in the subject of appendicitis and its complications. After a careful review of the literature, I am unable to find another case on record

in which an appendiceal abscess produced obstruction of the sigmoid colon and the patient lived.

#### SYMPTOMS

The symptoms of acute appendicitis can simulate most every other intra abdominal condition. To mention a few: peptic ulcer, cholecystitis, cholelithiasis, cholangitis, right uretral stone, pelvic path-



ology in the female, Meckels diverticulum, strangulated hernia, and many other conditions involving the gastro-intestinal tract.

### COMPLICATIONS

The complications of acute appendicitis are innumerable and only the common ones are usually thought of. The unusual ones are oftentimes not even mentioned in text books. The complication of peritonitis, ileus, and abscess are the most frequent ones. Many other complications are mentioned in literature. A few are phlebitis, thrombosis, hepatitis, pyelitis, parotitis, perforation of the bowel, sinus formation with other organs, and complete obstruction.

The abscess formations and locations are many and the following classifications have been given:

1. The ileoinguinal type located above the right inguinal ligament.
2. Similar to type one, but the abscess is located medially to the caecum.
3. Posterior-parietal type located posterior and above in the lumbar region.
4. Pelvic type, the abscess is located in the pelvis and usually found in the cul-de-sac.
5. The left-sided abscess is "rare" and is especially found in children.

Out of 700 cases, this last type mentioned, from the Surgical Clinic of the University of Zurich, there were nine cases of left-side abscesses.

The left-sided abscess develops from direct communication with the appendix or from primary or secondary infected exudate collection. The common description terms for locations of the abscess are appendiceal fossa, pelvic, kidney fossa, subphrenic, hepatic, and retrocaecal regions.

### DIAGNOSIS

The diagnosis is usually made by the routine procedures of a good history, physical findings, and laboratory findings. Sometimes it is possible to palpate the abscess, especially if it has existed for several days and is in a thin individual. It may be palpated through the abdominal wall, vagina, or through the rectum. Adams states that the time elapse is usually nine days. In his series, the longest time was three weeks.

### SURGICAL PROCEDURE

The surgical procedure will depend on the individual surgeon, the location and time of the operation. If the abscess is not palpable a mid-line incision should be made with a rectus muscle splitting done. If the abscess is palpable, the a McBurney incision with drainage, or by staying extra-peritoneal and placing drains into and at the site of the abscess. If possible, the appendix should be removed at the time of the operation. If not possible and if it adds additional risk, the appendiceal abscess should be drained and the appendix removed at a later date. The type of drains that will suffice will be a Penrose drains. A sufficient number should be used and they can be shortened daily. The last one should not be removed until the eighth

day to the twelfth day. Too early removal of the drains may necessitate the re-operation of a patient every now and then.

The routine post-operative care should consist of intravenous glucose 5 to 10 per cent, sedatives, intranasal catheter for several days. Careful watching of the intravenous fluid intake, and output, with study of the blood chemistry from day to day if needed. As soon as possible place the patient on the abdomen in a semi-Fowlers position for more adequate drainage. Any other complications that might arise must be taken care of at that time. The mortality rate in appendiceal abscess varies from 10 to 50 per cent, and in some series of cases even a higher percentage has been mentioned. The mortality rate can vary according to the surgeon, type of patients with whom he is dealing, the type of hospital, and the facilities of medical, surgical and hospital care.

### CASE REPORT

May 9, 1939, a young male, age 22, single, student, came into my office, and his general appearance was that of being extremely ill. He complained of soreness in the lower left abdomen. He gave the following history: About April 30 he had been on a drinking bout of three days. During that time he ate some salami, hamburger and chile beans. On returning home the night of May 1, he felt nauseated and vomited. The next day he did not feel well, but no pain. He took several Ex-lax tablets without good results. Then he took a bottle of citrate of magnesia, but was unable to retain it on account of nausea. Later in the day the nausea subsided, and he had some gas pains. On May 2 the gas pains were more severe and the abdomen was distended, but there was no nausea or vomiting. He took two phenolax wafers. A hot electric pad was applied to the abdomen, which gave relief to the gas pains. On May 3, still having gas pains, he consulted a colonic irrigating place, and the patient states that attendant used approximately 30 gallons of water without results. He returned home and took one bottle of citrate of magnesia and two ounces of castor oil. On May 4 there was a small bowel action with some expelling of gas and relief of abdominal pain. On May 5, 6, 7 he took mineral oil, two tablespoonsful twice daily. The dull, aching pain in the abdomen continued. On Saturday night, May 7, went to a dance and did not return home until 3:00 A.M. Sunday, May 8, went to a movie, but on his return home felt very weak and sick. On Monday, May 9, he consulted the writer. The time of the examination was 11:30 A.M. and the temperature was 98.8, and the only definite physical finding was a very tender lower left quadrant. The remainder of the physical examination was essentially negative. No mass palpable in the lower abdomen, but a definite deep muscle rigidity of the entire lower abdomen. There was very little tenderness in the right lower quadrant. The white blood count in the office was 21,000 and 20,000. The red blood cells, 4,100,000; sahli, 81 per cent; lymphocytes, 7 per cent; large lymphocytes, 2 per cent; large monocytes, 2 per cent; transitionals, 1 per cent; eosinophiles, 7 per cent; smear, normal; white blood cells at 5:00 P.M. were 23,200 and 23,150. The patient entered the Queen of Angeles Hospital and protoscopic examination was made after a provisional diagnosis of either a perforation of the rectum or rectosigmoid, or intussusception as a result of the drastic catharsis and colonic irrigations.

## PROCTOSCOPIC EXAMINATION

Done by Dr. C. H. T.

15 cm. above the anus the mucosa of the bowel is thrown into folds and is markedly oedematous. The bowel is practically fixed at this point and there is a complete obstruction of the lumen. No signs of bleeding nor could any growth be visualized. Ballooning of the rectum below the site of the obstruction.

*Remarks;* Do not believe this is a malignancy. The mucosal oedema is of an inflammatory basis and that there is an intussusception present. This may be due to a benign tumor and excessive purgation or due to the purgation alone.

*Diagnosis:* Acute obstruction sigmoid colon.



Barium enema showing obstruction in sigmoid colon.

Preliminary film of the abdomen showed no evidence of urinary calculi. The kidney outlines were obscured by gas. A moderate amount of gas was scattered throughout the entire colon, except for the lower sigmoid. Urine, yellow, cloudy; specific gravity, 1.025; reaction, acid; sugar, negative; albumen, faint trace; acetone, positive; diacetic acid, negative; epithelial cells, a few.

The barium enema shows complete obstruction of the barium in the lower sigmoid and none of the barium passed this point. The nature of the obstruction cannot be determined from the x-ray. There was no extravasation outside of the lumen of the bowel and no x-ray evidence of perforation. Wasserman, negative.

5-10-38. Hemaglobin, 103. Leucocytes, 24,100. Neutrophiles, 83 per cent. Lymphocytes, 65 per cent. Monocytes, 10.5 per cent. Platelets, normal.

Consultation was had with Dr. J. M. L. and he concurred in the diagnosis of obstruction of the sigmoid and most likely cause was intussusception of the sigmoid colon.

5-11-38. Under spinal anesthesia using 120 mgs. novocain the patient was explored through a low

mid-line incision. On opening the peritoneal cavity, the small bowel was found to be distended and the serosa of the ileum was injected with many small blood vessels and the mesentery was greatly inflamed. The large bowel was followed down to the region of the sigmoid and no obstruction was encountered. There was a very large retroperitoneal mass, hard, and fixed, which was extrinsic to the sigmoid colon, that was causing the obstruction. The caecum was localized and appendix found, traced, and the tip of the appendix was buried in this hard mass above and to the left of the sacrum. The bowel was well packed off, and a point of fluctuation was found with the fenestrated portion of the suction removed, the finger was placed in the mass at the point of greatest fluctuation. A very large amount of thick, foul-smelling pus was released and aspirated into the jar. Several pitchers of warm saline were placed in the pelvis and suction continued to wash out the pus and necrotic tissue. Five Penrose drains were placed at the site of the abscess in the pelvis, appendiceal fossa, and along the caecum towards the right kidney. The omentum was carefully placed about the drains and made sure to cover the bowel as best as could be done. Abdomen was closed loosely about the drains, as they were brought out in mid-line above the symphysis. Permanent catheter was placed in the urinary bladder.

5-13-38. Urine examination essentially negative. White blood count, 24,800. Neutrophiles, 88 per cent. Eosinophiles, 0.5 per cent. Lymphocytes, 6 per cent. Monocytes, 5 per cent. Myelocytes, 0.5 per cent.

5-16-38. Leucocytes, 13,600.

5-20-38. Leucocytes, 12,250.

5-21-38. Leucocytes, 12,800.

5-25-38. Leucocytes, 17,500. Neutrophiles, 82.5 per cent. Lymphocytes, 8.5 per cent. Monocytes, 9 per cent.

Post-operative convalescence was stormy for the first five to seven days. The temperature varied from 98 to 104.2, and the pulse from 72 to 130. Respirations, 17 to 28. On the fifth post-operative day the bowels moved per rectum and the movement was soft. After the first day, patient was either on the right side or on the abdomen in bed, and there was a large amount of foul drainage. The dressings were changed often for many days.

The patient was dismissed from the hospital on 5-29-38, and there was a small amount of drainage. He was dismissed from further treatments on 6-24-38 as well. Gaining weight and feeling well.

The appendix is to be removed at a later date.

1930 Wilshire Blvd.

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## Indications for Cesarean Section

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**C**ESAREAN section is increasing in popularity.

According to Schwarz, the incidence in St. Louis Maternity Hospital increased from a ratio of one in 73.7 deliveries in 1927 to one in 43.4 deliveries in 1937. Daichman gives the five-year incidence of sections as 3.3 per cent of 11,210 deliveries in the Jewish Hospital, Brooklyn. In Boston City Hospital in the year 1929 the incidence was 3.8 per cent, but for the 25 years previous to 1930 only 1.7 per cent of deliveries at Johns Hopkins Hospital were done by Cesarean section.

It is generally admitted by obstetricians that Cesarean section is performed too often, that indications are inadequate. Rumor has it that in certain parts of the country the only necessary indications are pregnancy and a maternal desire for an easy delivery. Certainly El Paso can deny the accusation. At Hotel Dieu, El Paso, for the ten-year period including 1929 and 1938, there were 2,835 deliveries with 38 Cesareans, an incidence of 1.3 per cent. In City-County Hospital from Jan. 1, 1928, to Feb. 1, 1939, the total number of deliveries was 2,732, including only 17 Cesarean sections, incidence of 0.6 per cent. In the years 1929, 1931, 1932 and 1934, no Cesareans were done in City-County Hospital. Two were done in 1928, one in 1930, one in 1933 (an unsuccessful post-mortem attempt), four in 1935, two in 1936, one in 1937, five in 1938, and two in January, 1939.

The only maternal deaths following Cesarean section were three in 1935 (out of four sections done), and one in 1938 (of two performed). The maternal mortality rate is therefore 23.5 per cent. The series is small, and it compares unfavorably with reports from larger clinics, who claim a death rate of only 2.1 per cent to 5.8 per cent. The latter figure is accepted as the maternal death rate throughout the United States following Cesarean section. Schumann reported 120 consecutive cases without death of a single mother. They were all elective cases, however.

Therein lies one of the important factors in a low mortality rate. Patients who receive adequate prenatal care, with evaluation of their general condition, and who undergo Cesarean before the onset of labor or early in labor, present a low mortality rate. City-County Hospital, like every other charity hospital, becomes a dumping ground for patients who have been subjected to prolonged labor, repeated vaginal examinations without asepsis, and dehydration, with resultant infection. Should a patient's life be further jeopardized by a laparotomy which spreads infection throughout her peritoneal cavity. We think not, particularly if signs of infection are already present—fever, rapid pulse and

foul lochia. The rare exception is a case with pelvis too small to permit delivery by vagina, even after craniotomy. Where such a condition is found, low cervical Cesarean is the operation of choice.

Stander believes, with other authorities, that where absolute indication for Cesarean section exists in an infected case, Porro operation should be done—Cesarean section with hysterectomy. As Blande puts it, "to leave a uterus literally sizzling with streptococci and at the same time discharging legions of these organisms into the blood stream seems . . . wholly inadequate." But a Porro Cesarean in the hands of the average operator may increase mortality. In City-County Hospital, where nine operators performed Cesarean section in ten years, three Porro sections were done, with three deaths. Responsibility for one of these should be laid at the door of the doctor who gave the patient a hypodermic—presumably pituitrin—during labor and ruptured her uterus. Recently a doctor in another town sent a woman to City-County Hospital for Cesarean section. Repeated vaginal examinations and manipulation had been done, and labor had dragged along for 24 hours. Elevated temperature and rapid pulse gave evidence of infection. We refused to operate. Craniotomy and vaginal delivery were done. The woman recovered.

True, extraperitoneal approach has been advocated for such cases. The Latzko extraperitoneal approach had been unsatisfactory in the hands of most operators. Recently Portes, technique of eviscerating the uterus and leaving it exteriorized has been advocated. To me, it seems illogical to attempt to avoid one infection by inviting another. Cooke has reported a modified Hirst operation for the infected case, in which technique the peritoneal cavity is excluded from the field by a rather tedious suture of the peritoneum. In the hands of the average operator, this technique would be impractical. Low cervical Cesarean can be done in these infected cases, but there still remains a large chance of peritonitis. At City-County Hospital, four low cervical sections have been done in ten years, with no deaths.

### INDICATIONS

What, then, are the indications for Cesarean section?

1. *Disproportion* leads the list in every series—35.7 per cent in Daichman's series, 37.5 per cent among Schwarz's patients. At our hospital, seven cases were subjected to Cesarean because of contracted or deformed pelvis. Judgment and observation are important in determining whether a baby can pass through the birth canal. As Watson says, we should study the pelvis and the patient more. Improved x-ray technique had made such study more accurate. An external conjugate of 17

cm. may be sufficient indication for Cesarean in a Nordic woman with a large baby, but a Mexican woman with external conjugates of 16 cm. may deliver spontaneously the average size baby for her race.

Where a borderline pelvis is found in a primipara and the presenting part fails to engage early in labor, Cesarean section is indicated. Trial of labor is more hazardous to mother and baby than is operative delivery. Watson and others decry the trend toward more Cesareans, attributing the trend to lack of skill in management of difficult vaginal delivery. However, one or two unfortunate experiences with trial of labor will bend the average obstetrician toward Cesarean.

2. *Other Obstruction.* Tumors obstructing the birth canal are definite indication for elective Cesarean. Such an obstruction should, of course, be discovered long before term. One case at City-County Hospital had Cesarean because a fibroid of the cervix obstructed the pelvis. Carcinoma of the cervix is occasionally found in pregnancy. Cesarean section is the safe method of delivery, avoiding perhaps fatal hemorrhage from the cervix as well as dissemination of the malignancy by trauma. Complete hysterectomy should be done. Carcinoma of the rectum may obstruct the birth canal.

3. *Previous Cesarean.* About this indication a heated argument rages. Holland says rupture of the uterus will occur in 4 per cent of patients who have had previous section if labor is permitted to proceed. Watson does not accept the dictum: "Once a Cesarean, always a Cesarean." Schwarz and others have demonstrated that scar tissue does form in the uterine incision, weakening the uterus here. We know that afebrile puerperium is not proof of good healing in the uterus. A case recently seen demonstrated this fact. A previous Cesarean had been followed by an uncomplicated and afebrile puerperium. When the uterus was exposed for a second Cesarean, the lower portion of the uterine scar was found gaped open so that the membranes could be plainly seen. Without doubt, a few labor pains would have ruptured this uterus. The obstetrician must use judgment in these cases. The majority of competent opinion, however, leans toward Cesarean section where a similar operation has been previously performed.

4. *Placenta Previa.* Four cases in our series had a diagnosis of placenta previa. Central placenta previa is best treated by Cesarean. In case of marginal placenta previa, decision must be based upon the amount of bleeding, the condition of the cervix (rigid or soft), and the patient's condition. It is undoubtedly true that in such borderline cases the skilled obstetrician will perform Cesarean less often than the untrained accoucheur. Even in the best hands, however, fetal mortality is higher with conservative treatment of placenta previa. In Sloane Hospital, New York, of 28 cases delivered by vagina, there were 12 fetal deaths (42.9 per cent), as contrasted with a fetal mortality of 9.1 per cent

(one case) in eleven delivered by Cesarean section. However, the mother's interest should be paramount.

5. *Premature separation of the placenta* is a definite indication for Cesarean section. In such cases the uterine musculature has been so damaged that it may not contract, and the patient may bleed to death following delivery. Stander advises watching the uterus after Cesarean until it contracts, before closing the abdomen.

#### 6. *Medical Conditions.*

*Heart disease* is less often an indication for Cesarean section than formerly. With adequate treatment throughout pregnancy, most cardiac patients will deliver normally or with help of forceps.

*Tuberculosis* may necessitate Cesarean section but only an occasional case is found who cannot be delivered by vagina.

*Eclampsia* has been pushed out of the class of indications for Cesarean in America. In Germany, section is still done in eclampsics. At Johns Hopkins Hospital, 110 Cesareans were performed for eclampsia, with a mortality rate of 22.8 per cent. During the same period, the mortality rate was only 13.3 per cent in 165 eclamptic patients treated conservatively. Cesarean is seldom indicated in eclampsia. Where it must be done, local or spinal anesthesia should be used. At City-County Hospital, one patient in eclampsia was subjected to Cesarean in 1930, and in 1933 an unsuccessful post-mortem Cesarean was done on a woman who died in eclampsia.

7. *Presentation.* Persistent transverse presentation may be a good excuse to perform a Cesarean, but most of such cases can be delivered vaginally. Breech presentation in an elderly primipara may justify Cesarean, for in the presence of a rigid cervix and perineum, fetal mortality is high.

8. *Psychopathic States.* Cesarean may be done in certain mental cases in order to perform sterilization at the same operation.

9. *Cervical Dystocia* may present such an insurmountable barrier to delivery that Cesarean is the only way out.

10. *Miscellaneous.* Ruptured uterus, made Cesarean imperative in two cases at City-County. One Cesarean was done because of an open rectovaginal fistula.

It should be emphasized that the mortality from Cesarean section is definitely higher than from normal delivery. In Sloane Hospital the Cesarean section mortality rate for 1934-36 was 2.8 per cent. The general mortality rate was 3.75 per 1,000, or 0.37 per cent. In most large clinics the rate of death for mothers delivered vaginally is 0.2 per cent to 0.5 per cent, while the Cesarean mortality rate is 2 to 5 per cent—a ten-fold difference. Does Cesarean offer the best chance for a living baby? One is inclined to answer, "Yes." But for three years in Sloane Hospital, the infant death rate in Cesarean cases was 3.9 per cent, while infant mortality in general was 4.2 per cent. This small dif-



ference does not justify jeopardizing the mother's life unless indications are definite.

To lower the mortality rate from Cesarean section, we must endeavor to place more cases in the elective class. This means more careful prenatal study. In El Paso it means better education of midwives and doctors. In City-County Hospital, where an elective Cesarean is seldom done, four mothers died in 17 operations—a mortality of 23.5 per cent. The infant mortality was 35 per cent, uncorrected. Eliminating stillborn babies, infant mortality was 5.8 per cent. At St. Louis Maternity Hospital fetal mortality for ten years was 8.2 per cent. Throughout the United States infant mortality after Cesarean section is 8.5 per cent.

### SUMMARY AND CONCLUSIONS

1. Careful evaluation of the dangers for mother and baby should precede Cesarean section. The operation is probably often performed without definite indications.

2. Contracted pelvis, placenta previa, and pelvic tumors head the list of indications for Cesarean section.

3. Cesarean is contraindicated in the presence of infection.

4. Review of Cesarean section at City-County Hospital for an eleven-year period finds an incidence of 0.6 per cent in 2,732 deliveries, with maternal mortality of 23.5 per cent, fetal mortality of 5.8 per cent following the operation.

5. It is emphasized that attempt should be made to place more Cesareans in the elective class, thereby reducing mortality.

El Paso National Bank Bldg.

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## Extrapleural Pneumothorax in the Treatment of Phthisis

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**E**TRAPLEURAL pneumothorax is an endothoracic extrapleural pocket of air induced for the purpose of selectively collapsing the apex of the diseased lung when symphysis of pleura prevents satisfactory intrapleural pneumothorax. It is created by the surgical stripping of parietal pleura from the chest wall and mediastinum, the collapse being maintained by repeated instillation of air into this artificially created space. It differs essentially from intrapleural pneumothorax in that it is entirely outside the parietal pleura, its base being composed of fused parietal and visceral pleurae, and, furthermore, in the respect that it is selective in the extent of collapse of diseased lung.

### INDICATIONS FOR EXTRAPLEURAL PNEUMOTHORAX

Schmidt and Theiss have conveniently classified the indications for this operation into three groups: (1) *absolute*, (2) *broad relative* and (3) *conditional relative*.

The *absolute indications* are:

1. Conservative treatment has failed.
2. The tuberculosis lesions must be well stabilized.
3. The cavities are not fibrotic, tertiary or stiff-walled. They must not be more than 4 cms. in diameter, while the base should not extend below the sixth rib level posteriorly.

4. The contralateral lung should be free of active tuberculosis.

5. The respiratory and circulatory function should be favorable.

In our opinion, this absolute indication group includes non-acute, relatively recent unilateral lesions which are very limited in extent, occurring in fair or good surgical risk individuals without major contraindications for selective apical thoracoplasty. Furthermore, it is the group in which the best results and fewest complications may be expected from the operation.

The *broad relative indications* claim those cases excluded from the absolute group by virtue of the size and/or position of the cavities, contralateral cavernous or extensive involvement, or poor circulatory or respiratory function. Satisfactory establishment of the extrapleural space is accomplished in the vast majority of these cases. While a high percentage of excellent results is obtained, the incidence of complications is greater and the maintenance of an adequate space is more difficult than in Group I (the absolute group).

The *conditional relative* group represents cases with old tertiary stiff-walled cavities in which thoracoplasty is contraindicated because of the size and position of the cavities, or the existence of contralateral pulmonary cavities, and/or the poor physical condition of the patient. Ipsilateral thoracoplasty might be considered in these cases if and when the preliminary extra pleural pneumothorax improves

the contralateral lesions and the physical condition of the patient sufficiently to warrant it. Included in this group are those who refuse thoracoplasty.

Demanding special consideration there remain additional indications not particularly and specifically included in Schmidt's and Theiss's classification. I refer to a group of young individuals in the first two decades of life, who having cavernous lesions are faced with major thoracoplastic collapse with its osseous developmental disturbance and horrible postural deformity. In this group we believe a preliminary extrapleural pneumothorax with later consideration of thoracoplasty if it be desirable or imperative, to be a more rational therapeutic program.

Lesions with a tendency to large exsanguinating hemorrhages should be considered an indication for extrapleural pneumothorax, for three reasons: (1) The large selective collapse directly over the bleeding cavity offers a greater collapse and more assurance of control than does the amount of collapse to be derived from the first or second stage of thoracoplasty. (2) The patient postoperatively is able to cough and expectorate the new and old bloody secretion with more ease and comfort immediately following extrapleural pneumothorax than after thoracoplasty. There is, therefore, less chance for contralateral spread of the disease and atelectasis. (3) Patients with these huge hemorrhages are poor risks for major surgery with a more shocking procedure such as thoracoplasty in contradistinction to a nonshocking less radical extrapleural pneumothorax.

In this special group of cases in which thoracoplasty is contraindicated we would include those with serious metabolic disturbances such as diabetes and nephritis; the hypertensives; those in whom observation has led to presumption or suspicion of possible early psychopathic or mental disturbances; debilitated patients as a result of intestinal or renal tuberculosis; and lastly, intractable asthmatics.

#### CONTRAINDICATIONS

Contraindications to extrapleural pneumothorax may be enumerated briefly as follows:

1. A potentially patent pleural space in which intrapleural pneumothorax is feasible.
2. Huge cavities with very thin superficial walls.
3. Presence of pure or mixed infected tuberculous empyema with or without intrapleural pneumothorax.
4. Acute, rapidly progressing exudative lesions with great toxicity and high fever.
5. Bronchopleural and bronchopleurocutaneous fistulae.
6. Progressive and rapidly extending ulcerative tuberculous tracheobronchitis.
7. Infections of the skin.
8. Meningeal, miliary and terminal cases.

To disregard these contraindications will in the majority of instances lead to failure and disaster with concomitant condemnation of this surgical procedure, as much as with any other ill-advised

operation. Furthermore, to recommend and carry out an extrapleural pneumothorax merely because all else has failed and thoracoplasty is inadvisable and there is nothing left to be done in a hopelessly poor risk patient does great injustice to this operation.

#### POSTOPERATIVE CARE

It is our custom in immediate postoperative care to have the patient turned frequently from side to side, to induce deep inspirations by carbon dioxide every three hours, and to control carefully the sedatives in order that the danger of atelectasis may be minimized. Following extrapleural pneumothorax patients cough and expectorate with great facility. We have had no complications such as sputum retention and atelectasis postoperatively.

The procedures followed to maintain this extrapleural space by the introduction of air except for a few important particulars differ little from those required for intrapleural pneumothorax. Provided fluoroscopic or roentgen examination twenty-four hours after operation shows the space to be still evident, the introduction of air is first accomplished on the first or second postoperative day depending on roentgen or fluoroscopic findings. It may be introduced either through the first or second interspace anteriorly, usually somewhat lateral to the midclavicular line, or posteriorly just mesial to the upper half of the operative wound in the neighborhood of the rib resection. The anterior approach is usually more convenient. A 20 or 22 gauge needle is used and the initial refill may vary from 50-200 cc. A manometer graduated to 60 or more centimeters of water must be employed since the positive pressure often runs from plus 30 to 50. As a rule, by the end of three weeks the patient is on a weekly schedule although the instillation of air may have to be repeated every day or two in the beginning. In the first few refills until the space has been well established it is better to keep the positive pressure in the neighborhood of plus 30, provided this is sufficient to hold the space originally established. A convenient method is by the use of a two-way connecting valve to have needle attached both to the manometer and to a 100 cc. syringe. The original pressure is recorded; then under syringe pressure a known amount of air is injected, the pressure being frequently checked by turning the stop valve. The portable pneumothorax machine to which one has become accustomed can be used, though, of course, to obtain these higher pressures the levels separating the two bottles must be considerably farther apart.

#### REFILLS

The exacting guide to the frequency and amount of air refills is fluoroscopy or roentgenogram since extrapleural pneumothorax manometric readings are at times misleading, as is physical examination of the chest. Since the patient had a refill of air (150-250 cc.) immediately after the completion of surgery, we are guided by the overexposed upright portable bedside roentgenogram twenty-four hours



later. In the earlier cases serosanguineous saline was usually aspirated and a variable amount of air replaced on the day following surgery, whereas now we leave the pocket dry at the time of closure of the wound and find it rarely necessary to aspirate the fluid that accumulates. Since manometric pressures are so variable, the hard fibrotic lung usually showing higher positive pressures even on a relatively small refill, there is no exact range of pressures that can be reliably set forth. Usually the pressures are definitely on the positive side and the early refills vary from 100-400 cc. Refills are most conveniently given in the second interspace anteriorly and are repeated from then on as often as fluoroscopic and roentgen examination indicate, usually on the second, fourth, sixth, ninth, twelfth and sixteenth days, etc.

Careful comparison of the preoperative with the postoperative roentgenogram is the only reliable method of deciding the amount of collapse that will be necessary for treating the lesion in question. It has been our experience as well as that of others that the mistake is usually in pleurolysing too small a space or in "letting up" too fast on the pneumothorax pocket only to have reappearance of the cavity or activation of the lesion. It is better to maintain a pneumothorax that is apparently larger than necessary for the lesion in question than to have to resort to very high positive pressures later in an attempt to hold an adequate space. High positive pressure early in the postoperative course increases interstitial emphysema and is apt to lead to bronchoextrapleural fistula and herniation of the wound.

Since the serohemorrhagic exudate forms in variable amounts postoperatively, one is again to decide by roentgenogram and aspirate if it is large in amount or if after the seventh postoperative it would appear to be still increasing in amount. If at aspiration it appears very sanguineous, it is well to needle irrigate the cavity with physiological saline in order to minimize the amount of fibrinous coagulum that will form later. The latter is conducive to scar tissue contraction of the mesothelial lining of the cavity and symphysis of the layers lining this same space.

#### COMPLICATIONS

Complications may be classified into immediate and late groups:

- |            |  |
|------------|--|
| Immediate: | tear of pleura<br>hemorrhage<br>perforation of lung or cavity<br>infection<br>serosanguineous effusion<br>emphysema      |
| Late:      | hemorrhage<br>perforation of cavity—bronchoextrapleural fistula<br>pyogenic infection<br>tuberculous infection<br>hernia |

loss of space  
air embolus

Of the immediate complications a not infrequent and usually inconsequential mishap is tear of the pleura during pleurolysis. If the tear be large or small and the resulting intrapleural pocket be small, there is no indication to repair it. If the tear be small and the resulting intrapleural pocket be large, the vital capacity of the patient limited, and activity is present in the opposite lung, then closure with muscle graft is indicated if the edges of the torn pleura cannot be easily approximated without further tearing. If the tear is small and the lesion very extensive, the vital capacity good and the contralateral lung inactive, one might consider greatly enlarging the pleural rent and obtaining a partially intrapleural and extrapleural combined collapse. This we have done in one case and an excellent result was obtained. Positive pressure under cyclopropane during the repair of a tear is a great advantage in a patient with lowered pulmonary or cardiac function.

Hemorrhage from small vessels during pleurolysis is easily controlled by the warm moist three-inch wide tapes especially made for temporarily packing the extrapleural space during operation. We believe the oozing is slightly greater if cyclopropane-oxygen anesthesia is used. We have not in any case had to resort to neural clips to arrest hemorrhage. Bleeding from small perforating vessels anteriorly is easily controlled by pressure of a dry gauze pledget on Hartman forceps. Diathermy might be resorted to if a nonexplosive anesthetic is being employed. We have encountered no bleeding from injury of mediastinal vessels, but if this should occur an immediate enlargement of the wound and repair with or without muscle is obviously indicated. In such an instance the fact that a patient is already under the influence of a general anesthetic is indeed a distinct advantage.

Where very dense adhesions are encountered hemorrhage, perforation of lung or cavity are definite hazards and are best avoided by abandoning operation, for the risk is great and the complications serious. In the event of cavity or lung perforation at the time of surgery the operation should at once be abandoned, the already freed extrapleural space loosely packed with gauze, and to facilitate future packings the external opening enlarged by rib resection of the rib above or below with its intervening intercostal bundle. Pulmonary cavities have been perforated twice in our series. In both cases the freeing was extremely difficult and abandoning the operating had been considered before the perforation occurred. In the first instance what appeared to be a satisfactory repair without widespread contamination resulted in increasing emphysema and although the wound was later opened and the space packed the patient died in nine days of toxemia and infection of chest wall. In the second case a packing of the extrapleural pocket at the time of operation has resulted in a still ex-

istant (three months postoperative) sinus. The fistula is closed and the scanty sputum is negative. In our limited experience it is a far safer procedure to pack open a wound with cavity perforation than to attempt to repair it and hope to hold an uncomplicated extrapleural pneumothorax.

Primary surgical pyogenic infection of the wound and of the pneumothorax is no more frequent than in any other operative procedure. In the one case, a staphylococcus infection of the pneumothorax space was drained through the posterior wound and the latter Dakinized. In a few days the opening closed, the pneumothorax refills re-established, and since the wound has entirely healed and the cavity closed with negative sputum the patient has run an uneventful course.

Serosanguineous effusion for the first few postoperative days is the usual and expected event. In the great majority where the pocket was left dry at the time of operation, no subsequent aspiration is needed and usually the pneumothorax space is dry in two weeks. Where there is persistent or a rapid accumulation of fluid aspiration is indicated.

Interstitial emphysema is the usual finding and is in direct proportion to the amount of coughing the patient has done. It has required no treatment in our series.

#### LATE COMPLICATIONS

1. Hemorrhage or oozing into the pneumothorax pocket for days following operation may be a troublesome complication. In our one instance, it was controlled by needle aspiration and irrigation with warm saline. Eventually a dry space resulted. Schmidt suggested aspiration of fibrin and blood clot through a catheter introduced through a thorascopic cannula. It would seem that in the case of continued oozing that thorascopic examination of the space might reveal the bleeding points and that these might be coagulated with the pneumonolysis electrode.

2. Perforation of a cavity and resulting broncho-extrapleural fistula may occur at any time during the course of refills. It is due to necrosis of the wall of the cavity and a sloughing into the extrapleural pneumothorax. Monod believes this due to the lateral wall of the cavity losing its blood supply from the chest wall from which it has been freed. It might also be due to needle injury of the lung at the time of refill in rare instances. We have had two cases in which the cavity later sloughed out into the extrapleural pocket. There was extensive emphysema and though the pocket was drained on the fifth and seventh postoperative days by opening the wound, the patients died of toxemia and a contralateral spread of the disease. These cases should be drained at once after the diagnosis is established. Even then, the prognosis is not good.

3. Late pyogenic infection of the extrapleural pneumothorax is not common if we exclude those cases which result from broncho-extrapleural fistula. We have seen none. If the patient is not

toxic, aspiration and needle irrigation should be tried. If the patient is toxic and very septic, however, drainage should be at once established.

4. Tuberculous infection of the extrapleural pneumothorax space is a common complication of this operation. At Olive View Sanatorium routine examination was made of all patients developing fluid after the initial postoperative (traumatic) serosanguineous effusion had or should have absorbed. In the first fifty pneumothorax pockets fifteen (30 per cent) developed fluid. Of these, nine (18 per cent) were proved tuberculous by smear, culture or guinea pig inoculation. If the tuberculous infection cannot be controlled on needle aspiration alone or with saline needle irrigation, then following aspiration and saline irrigation two and one-half per cent gomenol in olive oil is instilled into the infected space. This is repeated at one, two or three weekly intervals, depending on the rapidity of pus accumulation and the toxicity of the patient. Eight per cent of our cases required therapeutic oleothorax.

5. Herniation of the wound a few months following surgery is a complication we have seen twice. Following refills under fairly high pressures these two patients can by coughing and straining herniate a walnut-sized area just mesial to the scapula under the scar corresponding to the resected rib area. It is not painful, the patients are conscious of its presence, but it has not hampered their convalescence. It is, no doubt, due to high pneumothorax pressures early in the postoperative course before solid healing of the intercostal repair has taken place. We have not as yet attempted hernial repair, but would not hesitate to do so if the complication became a major one.

6. Loss of the extrapleural pneumothorax space may occur any time during the course of its existence. It might be lost within the first two or three postoperative days if there is a great deal of coughing or if the patient has tracheobronchial tuberculosis with balloon cavity. Accumulation of blood clot is conducive to early concentric contraction of the scar tissue floor of the air pocket and symphysis with its chest wall and mediastinal surfaces. Tuberculous and sterile effusion into the pneumothorax space is likewise conducive to scar tissue contracture and loss of space.

Once it becomes evident by x-ray and by the refills that the space is being lost it is essential to resort at once to a conversion to oleothorax. Two and one-half per cent gomenol in olive oil with an additional ten to twenty cc. of a twenty per cent lipiodol is instilled into the pneumothorax space and almost filling it. The purpose of the lipiodol is to have a heavy opaque oil at the bottom of the cavity (the patient being in the upright position) when roentgenograms are taken in order to demonstrate the relative and comparative inferior level of the space and thereby determine from time to time the degree of retraction and loss of space. If the



space was not infected before oleothorax, it is left in place indefinitely. It is aspirated and replaced if there existed a tuberculous infection. Fourteen per cent of our cases have had antisymphyseal oleothorax and four per cent a combined therapeutic and antisymphyseal oleothorax.

7. In one instance air embolus during refill has occurred without residual effect.

8. Tuberculous sinus in chest wall resulting from needle-tract infection from aspiration has occurred once.

### RESULTS

Results: 100 cases; 106 operations\*

	Absolute	Broad	Conditional	Total
Sputum negative				
Cavity closed	25	28	14	67%
Sputum positive				
Cavity open	....	11	17	28%
Dead	....	1	4	5%

\*Four bilateral and two unilateral two-stage operations.

As already stated, we have no available figures on end results of cases that have been observed and studied for four or five years. The first of our own series was operated in September, 1937, and we hasten to add that a study of a group of cases of which the oldest is nineteen months can offer no reliable information on late results.

Interestingly enough, all cases falling in the absolute indication group had cavity closure and sputum negative. You will recall, this type of case had a contralateral clear or healed lesion; the cavity was not thick walled, not over 4 cm. diameter, and was located above the sixth rib posteriorly.

As the indications became poorer, so did the results, with mortality increasing in proportion. Thus the broad relative indication, while not good, offers the patient falling in this group a two-and-a-half to one chance of cavity closure and sputum conversion. This group, you will recall, had cavities larger than 4 cm., extensive lesions extending below the sixth rib, with contralateral involvement and poor functional tests. While 28 cases responded with closed cavity and negative sputum, 11 failed to convert and one died of sloughing cavity, infection and contralateral extension.

Indeed, a most questionable group for this operation is the relative conditional cases whose large stiff-walled cavities, contralateral involvement, and poor functional tests contraindicate almost all surgery. While fourteen cases had apparent cavity closure with sputum conversion, seventeen failed and four others died. A patient in this group has a forty per cent chance of sputum conversion if an

adequate pleurolysis can be obtained. The four deaths were as follows: in one the cavity was opened at operation, repaired, patient died of toxemia, sepsis and contralateral spread; in another case the cavity later sloughed and perforated into the extrapleural space and the patient died of the same cause; the third patient with contralateral intrapleural pneumothorax developed fistula months following operation, and, following first stage thoracoplasty on the same side, died from infection, sepsis and tuberculous spread of disease in both lungs; the fourth death occurred three months following operation after an early uneventful course. This patient had bilateral cavities, both of which had been well established for many months. Against the advice of her physician and due to the fact that she felt so much improved she took a sun bath. That night she had a fever, in three days evidence of acute miliary tuberculosis developed, and within a week she died. Autopsy revealed approximated cavity walls on the operated side, the contralateral cavity present and miliary tuberculosis of lungs, liver, intestines and kidney.

Four bilateral extrapleural pneumothoraces have been included in this group. All have sputum conversion and cavity closure. Two have as yet bilateral pneumothoraces, while two have been converted to unilateral antisymphyseal oleothoraces with contralateral extrapleural pneumothorax.

The vast majority of the complications were encountered in the relative indication group, more in the conditional than in the broad. The mortality rate was a little over four hundred per cent more in the conditional relative indications than in the broad relative classification.

The operation has many advantages over plombage where wax, gauze, balloons and other foreign bodies not infrequently erode the lung, and over the inadequate collapse of muscle and fat implantation which soon atrophy and absorb.

### SUMMARY

1. Extrapleural pneumothorax has a definite place in our program of collapse therapy in cases where intrapleural pneumothorax is not feasible and in cases in which thoracoplasty is contraindicated.

2. A one-stage operation offering at once selective collapse, it would appear a conservative procedure, less traumatizing and painful than thoracoplasty and therefore better tolerated by a chronically ill patient.

3. The early results obtained are indeed gratifying, but as yet we have no late results to report or quote from the literature.

4. The early results are best and complications and deaths few in the cases where the indications are clear-cut. Failures are due to lack of correct indications, poor technique or poor after-care.

Ed:—This paper appears in somewhat abbreviated form because of space requirements. Historical notes and surgical technique have been omitted.

## Retrobulbar Neuritis

LEWIS F. MORRISON, M.D.  
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THE subject of retrobulbar neuritis as a result of infection in the ethmoid sinuses is brought to your attention because it is of interest to both the ophthalmologist and the rhinologist. The diagnosis and treatment of this condition necessitates the utmost in co-operation and confidence between these two specialties in order that the patient may obtain satisfactory results. Whenever possible a third consultant in the form of a neurologist is advisable. If all three can agree on the diagnosis and treatment, the results obtainable will be excellent.

The literature on the subject of retrobulbar neuritis is very extensive and has been so for many years. The monumental work of Onodi<sup>1</sup> presented a bibliography of some 191 articles. There have been few years since then that numerous contributions have not been made. A few of the early articles bear abstraction and quotation if for no other reason than to remind us that the contributions of many whose names are a heritage—Loeb, Fuchs, Killian, Teillais, Krauss, etc.—were the result of years of painstaking labor. And their works still live because of their keen observations and excellent diagnostic acumen. Eales<sup>2</sup> reports a case of retrobulbar neuritis resulting from ethmoid disease. In this case there was no orbital cellulitis and no symptoms to attract attention to the nose until there was an escape of a large quantity of pus. After this happened there was a rapid subsidence of the neuritis. Caldwell<sup>3</sup> stated that the subject of the relation of pathology of the nasal sinuses to diseases of the eye is an interesting and comparatively unexplored field. He suggested a thorough nose, throat and accessory sinus examination in all cases of retrobulbar neuritis and if any pathology is found recommends early free drainage. He further stated in regard to conservatism: "Every irregularity does not have to be smoothed down. The artistic effect is not important." The writers up to 1907 and 1908 laid stress on the relationship of the optic nerve and the nasal accessory sinuses and felt that pressure was the all important factor. Gradle in 1915 wrote: "I believe that I am justified in stating, contrary to the teachings of Onodi and Loeb, that the anatomic relations of the sphenoid and the ethmoid cells to the optic canal are immaterial when it comes to a question of optic nerve involvement in accessory sinus disease. The trouble is transmitted by the soft tissues alone." This conclusion was obtained from the fact that if the intracanalicular portion of the dura becomes involved and causes pressure on the periphery of the optic nerve within the canal, the peripapillary bundles alone will be affected and an enlargement of the blind spot will result. If the process extends fur-

ther and involves the central vein of Vossius and causes a surrounding edema the neighboring nerve bundles will suffer. The resulting central scotoma is due to involvement of the papillomacular bundles.

It was not long until a dissenting element arose and maintained that the eye symptoms were only the early manifestation of multiple sclerosis and that the intranasal procedures were quite unnecessary. There resulted much controversy and the pendulum has made the usual migrations to both sides of the midline. The German literature is best represented by the works of Meller<sup>4</sup>, who discusses the rhinologic origin, and Marburg<sup>5</sup>, who discusses the multiple sclerotic origin. In this country the works of White<sup>6</sup> and Benedict<sup>7</sup> present the two sides of the etiology and treatment of the condition. It is somewhat startling to read a report of 225 cases of retrobulbar neuritis wherein 155 were due to multiple sclerosis and only one case due to sinus disease.

### DIAGNOSIS

Dunnington<sup>8</sup> states that to the ophthalmologist the term, retrobulbar neuritis, conveys a certain clinical picture, the salient features of which are: diminished vision, a central scotoma and a normal fundus. He then incorporates the apt description of Weill that it is, "a disease in which neither the patient nor the physician sees anything." Dunnington further states that retrobulbar neuritis is the initial sign of multiple sclerosis, and may precede the other signs by many years. Eight years represents a conservative average. The longest reported period between the early eye signs and the definite manifestation of the other signs of multiple sclerosis is 47 years. This controversy over the etiology of retrobulbar neuritis is most interesting and stimulating, but has contributed little to the welfare of the patient who suddenly finds that his vision is diminished and is progressively getting worse. In some instances the adherents of the multiple sclerosis theory agree that something must be done and even advise operation on the ethmoid and sphenoid. When the vision returns they assuage their conscience by stating that drainage is not the prime factor but the hyperemia following the operation and irritation due to the packing is the beneficial agent. The diagnosis of retrobulbar neuritis demands close co-operation of the ophthalmologist and the rhinologist in all cases. The counsel of the neurologist is always desirable and should be obtained whenever possible. There is ample time in all cases for a complete physical examination. Other than foci of infection, the differential diagnosis must consider (1) toxic amblyopia due to tobacco, (2) alcohol, (3) various drugs or chemicals, (4) lues, (5) early manifestation of hypophyseal

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House of Delegates of the American Medical Association to confer with President Roosevelt on matters pertaining to federal health legislation.

Dr. C. S. Smith of Nogales assumed the presidency of the Association, to hold office until the 1940 session in Tucson. Other officers elected by the House of Delegates were: Dr. D. F. Harbridge of Phoenix, president-elect; Dr. Dan Mahoney of Tucson, vice-president; Dr. Leslie R. Kober of Phoenix, secretary; Dr. C. E. Yount of Prescott, treasurer. Dr. J. D. Hamer, Phoenix, was re-elected speaker of the House of Delegates, and state delegate to the American Medical Association. Councilors named were: Dr. W. Paul Holbrook, Tucson; Dr. George C. Truman, Mesa; Dr. J. O. Bassett, Prescott; Dr. Hal W. Rice, Bisbee. Mrs. J. D. Hamer of Phoenix was named president-elect of the Women's Auxiliary of the State Association.

## 48th ANNUAL MEETING

Opening April 13 at the Westward Ho Hotel in Phoenix, the 48th annual session of the Arizona State Medical Association was the best attended in the long history of organized medicine in Arizona.

The House of Delegates declined to set in motion plans calculated to provide some form of health insurance under the sponsorship of the Association. It was said that, "Careful study has been given to (these) attempts to make hospitalization and medical care available on an insurance plan. It was the decision of the committee that a low income medical service plan could not function properly without a satisfactory hospital plan being in operation. . . . the committee further recommends that when the hospital plan is in successful operation that further consideration be given the low income medical service plans."

Dr. E. H. Cary of Dallas, Texas, professor of ophthalmology at Baylor Medical College, and former president of the American Medical Association, addressed the general assembly on various aspects of the federal legislative program regarding medical care. His theme was that, "with all our hearts we are for those things which will prevent disease, but the practice of medicine is a very distinct service and the public health service should not attempt that for which it is not trained." In similar vein Dr. Cary criticized the Wagner bill. Dr. Cary is a member of the committee of seven named by the



GEORGE T. COLVARD, M. D.

At the 57th annual session of the New Mexico Medical Society in Gallup, May 11-13, 1939, Dr. George T. Colvard of Deming was elevated to the office of president.

Dr. Colvard was born in Jefferson, N. C., in 1896, the son of a physician, Dr. J. W. Colvard. His early

education was obtained in the public grade and high schools. Academic training was taken at the University of North Carolina during the years 1915-17 and 1919-20. He entered the Medical College of Virginia in 1920, graduating in 1924 with his M. D. degree. At various times he interned at City Home Hospital, Richmond, and St. Francis Hospital, Jersey City, N. J. Dr. Colvard served in the armed forces of his country, being attached to a naval hospital camp.

Private practice was begun at Florence, Colo. After a few months he moved to Hurley, N. M., taking an appointment with the Nevada Consolidated Copper Co. from 1926-31. In 1931 he moved to Deming, where he has since conducted a general and surgical practice.

In 1925 Dr. Colvard married Miss Fleda Harwell of Luve, N. C. They have two sons, George T., Jr., age 10, and Patrick B., age 8.

Memberships held by Dr. Colvard are: Theta Chi fraternity (academic), Phi Chi fraternity (medical), New Mexico Medical Society, American Medical Association, Southwestern Medical Association. He has served three years in the House of Delegates of his state society and two years as vice-president. He is a member of the board of managers of SOUTHWESTERN MEDICINE, chairman of the board of Carrie Tingley Hospital for Crippled Children at Hot Springs. He holds a commission as major in the Medical Corps of the New Mexico National Guard.

Dr. Colvard has for years been active in the service of organized medicine in his state. Although engaged in a busy private practice he has found time to devote himself to the problems and detail of many public demands made upon him. He brings exceptional ability to the post given him as president of the New Mexico Medical Society.

### SLOW EPINEPHRIN

The transient effect of parenterally administered epinephrin has proven to be a short-coming in its use in asthma particularly. Many patients have been greatly inconvenienced by the number of hypodermic injections needed to keep them comfortable over a 24-hour period. Some measure of assistance has been afforded these patients by the use of inhalations of a 1-100 dilution of the hormone.

Keeney<sup>1</sup>, working at Johns Hopkins, has introduced a compound which he calls "slow epinephrin", which is quite slowly absorbed from the tissues into the blood stream. Since the introduction of protamine insulin many investigators have attempted to solve the problem of slower absorption of other hormones. Keeney makes a suspension of powdered epinephrin in a vegetable oil so that 1.0 c.c. of the mixture contains 2.0 mg. of epinephrin. Peanut oil seems to be less irritating

to the tissues than other oils used. In 30 patients treated during paroxysms of asthma, each was given intramuscularly from 0.5 c.c. to 1.5 c.c. of the "slow epinephrin", and remained free from asthma for from 9 to 16 hours, averaging about 12 hours relief per case. Previously these patients were compelled to resort to frequent (6-10) injections of regular epinephrin per day in order to remain free from asthmatic attacks. Because of the variance of individual response to epinephrin caution should be observed in giving the initial dose. Usually chronic cases may be begun with a dose of from 0.5 c.c. to 1.0 c.c. Sometimes in acute asthma it may be necessary to first administer regular epinephrin for immediate relief, then follow with the dose of "slow epinephrin." "Slow epinephrin" has been used in urticaria and serum sickness, with good results.

This new agent may prove of value to the physician of the Southwest, who annually sees hundreds of cases of asthma sent out here from their Eastern homes. The emulsion is soon to be made available commercially.

1. Keeney, Edmund L.: "Slow Epinephrin"—A New Slowly Absorbed Preparation of Epinephrin. *Med. Ann., D. of C.*, 8:48, Feb., 1939.

### AGING POPULATION

Medical science is directly concerned with a new, disturbing factor in the American scene. Modern medical practice has greatly increased the segment of the population over 55 years of age. It has been said that today there are more people over 55 in this land than there are under 10. Based on the 1930 census, the statement is made that 5.4% of the entire population is over 65 years of age. Below 4% of Arizona's population is over 65, while the figure for Texas and New Mexico is between 4% and 6%. California, that lovely Utopian fairy land, nurtures among her population from 6% to 8% over 65. Possibly that figure sheds light on the vast popularity of the old-age pension schemes that flourish there. Maine, New Hampshire and Vermont, traditionally conservative provinces, have of late showed unmistakable signs of embracing the newer theology of old-age annuities at the state's expense. Over 8% of the inhabitants of these states are over 65 years old.

American medicine has greatly reduced the death rate at two age extremes, viz., in infants and in the aged. In adding to the life expectancy of the latter group there has been created a new economical problem for society to deal with. As medicine is successful in prolonging life, so must there be a concomitant problem of how to care economically for the older group, who are all too often dependent and even indigent. There may be expected a growing instead of lessening demand on the part of the aged for more substantial consideration from society's treasurers.



## Special Section Arizona State Medical Association

J. D. HAMER, M. D.  
Associate Editor

### NOTES FROM ANNUAL MEETING

During the annual meeting of the Arizona State Medical Association as held at Phoenix, April 13, 14, and 15, 1939, election of officers resulted as follows: President-elect, D. F. Harbridge, M.D., Phoenix; Vice-President, Dan L. Mahoney, M.D., Tucson; Secretary, Leslie R. Kober, Phoenix; Treasurer, C. E. Yount, Prescott; Speaker of House of Delegates, J. D. Hamer, Phoenix; Councilor, Central District, Geo. C. Truman, Mesa; Councilor, Northern District, Geo. O. Bassett, Prescott; Councilor, Southern District, W. Paul Holbrook, Tucson; Delegate to the American Medical Association J. D. Hamer, Phoenix. Dr. Hal W. Rice automatically becomes, as retiring president, Councilor-at-Large for three years.

### RECORD ATTENDANCE

The Annual Meeting for 1939 saw a record attendance for both the Scientific Sessions and the House of Delegates. By action of the House of Delegates the Annual Meetings will alternate between Tucson and Phoenix, in hopes of maintaining high attendance for future meetings. Tucson will entertain the Association under this plan for the session of 1940.

### THE NAVAJO TRACHOMA PROBLEM

#### WHAT IS TRACHOMA?

Trachoma is a disease or sickness of the eyes which affects mainly the eyelids and cornea or clear part that we see through. The underside of the lids become thick and rough and have small bumps or nodules called follicles, which condition is accompanied, ordinarily, with a discharge of pus due to secondary infection. The cornea or clear part of the eye normally has no blood vessels. But after the trachoma Virus, bug, or germ gets into the cornea, new blood vessels begin to form in an effort to get rid of these bugs and the result is called pannus.

#### HOW DOES IT SPREAD?

Trachoma is spread by this discharge of pus getting on the fingers of the trachomatous person, on a towel, handkerchief, cloth, washbasin, or whatever comes in contact with this pus from the eyes and is carried in that way to other persons' eyes, and they in turn become infected with trachoma.

#### IS THERE TRACHOMA IMMUNITY?

In other words, does everyone have or get trachoma? So far as we know, every race of people contract it when exposed except, possibly, the Negro race. When once cured or arrested everyone

has to be careful not to be exposed to it or they will contract it again. If you will remember how it is spread and avoid such things that cause it to spread, you will not contract it.

#### HOW MUCH TRACHOMA IS THERE ON THE NAVAJO RESERVATION?

There has never been a complete survey among the pre-school children and adults, so we have no definite figures except for school children where trachoma will run between twenty and thirty per cent. This means that every third to fifth child has trachoma.

#### IN WHAT AGE GROUP IS TRACHOMA FOUND?

It is found in all age groups from a few weeks to very old age. It is possible for a child one week old to have it since it only takes one week for it to develop after exposure.

#### WHAT IS OUR PRESENT TREATMENT FOR TRACHOMA?

Our present treatment varies a great deal, depending upon the severity of the case, and is as follows:

Copper sulphate solution dropped into the eyes.  
Silver-nitrate solution rubbed on the lids.  
Chaulmoogra oil rubbed on the lids.  
Quinine bisulphate solution rubbed on the lids.  
Zinc sulphate solution dropped in the eyes.  
Saline boric solution to irrigate the eyes.  
Sulfanilamide given by mouth in pill form (thought by some to be a specific)  
Tartar emetic solution given in the vein for pannus.

#### WHAT IS OUR PRESENT TRACHOMA PERSONNEL?

Dr. Polk Richards is at the head of all trachoma activities in the entire Indian Service. Drs. J. F. Lane and W. P. Whitted have supervision over trachoma work in the Navajo-Hopi reservations. They are assisted by six special trachoma nurses. The boarding schools are taken care of by the local hospital staff nurses and the day schools, by the teachers and Indian assistants which, all told, makes a very large personnel. However, the day school personnel is not trained to give more than the very simplest type of treatment. Therefore, the day school patients do not receive adequate treatment in all instances. That is why we ask to have the worst cases sent to the boarding schools so that they might have adequate treatment.

What people are we treating and what ones are not being treated, and why? We are only treating boarding school and day school pupils because we do have enough personnel to reach those two groups but not enough for the pre-school and adult groups. However, more of these groups could be

# Information, Please!

## Intraseasonal Treatment of Hay Fever

is highly effective and not difficult if it is kept in mind that:

The dose which the patient receives is the pollen extract administered plus the pollen inhaled. Therefore the dose should be small, at short intervals and increased gradually.

The extract should never be injected where its distribution cannot be controlled by a tourniquet if necessary.

The extract used should be prepared as indicated for the individual patient. Treating with Bermuda extract alone when there is sensitization also to other pollens will give only partial relief.

We advise:

Test sets for your locality.

Treatment sets for the individual patient.



### **PATHOLOGICAL LABORATORY**

**Suite 507 Professional Building**

**Phoenix, Arizona**

W. Warner Watkins, M. D.

C. N. Boynton, M. A.

Harlan P. Mills, M. D.

W. J. Horspool, Bus. Mgr.



treated if they would come to our day school clinics regularly.

#### SHOULD THERE BE A TRACHOMA SCHOOL DURING THE SUMMER?

We should have a summer Trachoma School through June and July for the reason that many of our trachoma cases are so nearly arrested when school is out in May that from one to two months more treatment will put them on the arrested list. Should they become active again during the short interval of August (their vacation time), the disease will not become thoroughly established again as is usually the case when they have an all-summer vacation of three months without treatment. Then it takes most of the next school year to cure them again.

#### WHERE SHOULD THE SCHOOL BE?

This point has involved considerable discussion, and it was thought best by the Indian Office to have it at Fort Defiance this coming summer because it has everything desirable for the set-up such as dormitory facilities, hospital facilities, and is pretty well centrally located.

#### WHO WILL BE EXPECTED TO ATTEND THIS SCHOOL?

Those expected to attend will be children of school age from any part of the reservation. They will just go along with their school work as they have been in the boarding and day schools. At the present time there are no funds for adults or pre-school children. If the Navajo people want it later, there is a possibility that that sort of arrangement could be made. Teachers will be supplied for this summer school from the reservation.

It is to be hoped that the Navajo people will get behind this school and make it a success the first year. They can make it a success by permitting their children to attend this school during the months of June and July this coming summer.

Children from any part of the reservation will be eligible upon recommendation of the Special Physician in that area. The names will be sent to Mrs. Lucy Wilcox Adams, Director of Navajo Schools, and she in turn will write the parents before June 1 of this year.

The Indians of the Northwest are patronizing such a school; also the Apaches who have contributed \$50,000 to a year round trachoma school and with excellent results. Let us not allow our brothers to get too much in the lead and have all the benefit. I know that the Navajos are a proud race and want to do what is best themselves. So, let's all say, "LET'S GO."—(By DR. J. F. LANE, *Special Physician, Trachoma*).

## RETROBULBAR NEURITIS

(Continued from page 153)

disease, (6) early manifestation of either benign or malignant brain tumor, and (7) multiple sclerosis. The history of the onset of the amblyopia is frequently the most important single fact obtainable. In those cases due to sinus infection, more than 50 per cent give a history of an upper respiratory in-

fection immediately preceeding the eye complication. The loss of vision in these cases is usually rapid, whereas those due to central lesions progress more slowly. There is usually a certain amount of lameness of the eye muscles and a varying amount of pain when the eyeball is pressed into the socket. Inspection of the nose seldom shows any great amount of acute pathology. There is usually a high deviation or thickening of the nasal septum that is sufficient to interfere with both ventilation and drainage. Wherein the sputum is badly deviated there is usually a concha bullousa on the side of the concavity. One seldom encounters retrobulbar neuritis in those patients who have a chronic ethmoiditis wherein the nose is more or less filled with polyps and pus. Roentgenograms of the accessory nasal sinuses and optic foramen are usually suggested, always welcome and seldom of much value.

#### TREATMENT

Treatment varies with each individual case. However, certain generalities do obtain. If the onset has been gradual there is no great haste in advising surgical intervention. There is no question but that a certain percentage recover spontaneously. When the loss in vision is only slowly progressive or stationary, an attempt should be made to bring about recovery by employing the more conservative measures. These measures consist of topical application of some one of the shrinking agents and packing the nose with some one of the non-irritating bacteriocidal or bacteriostatic agents plus the oral administration of ephedrin or neosynephrin hydrochloride in physiologic doses. A certain number of the cases respond most satisfactorily to this regime. If the vision continues to diminish or if the patient is nearly blind and shows no improvement in 24 hours or at most 48 hours, surgery should be employed. The time factor plays an important role. The cases with long standing visual impairment do not give as good results as those of short duration. If surgical intervention is employed, a procedure should be selected that will offer maximum benefit and minimum hazard. Fortunately both can be obtained by a submucous resection and bilateral ethmoidectomy. The submucous resection of the nasal septum is imperative if one is to have sufficient working space to inspect and exenterate the ethmoid labyrinth without removing one or both middle turbinates. The middle turbinates are important structures and should not be removed if the physiology of the nose is to be maintained. After the ethmoid cells have been opened adequately each middle turbinate is pushed laterally in order that the ostia of the sphenoid sinuses may be inspected. If these ostia are patent and the anterior wall of the sphenoid is covered with normal appearing mucous membrane there is no advantage in enlarging these openings. If there is evidence of pathology of the sphenoid sinuses, one is obliged to remove a major portion of the anterior wall. If the diagnosis is correct and the

surgery adequate there is a definite improvement in vision within 48 hours.

#### SUMMARY

1. There is a brief review of the literature.
2. The onset of the amblyopia is important in the differential diagnosis and treatment.
3. When surgery is necessary it can be performed in such a manner that the nose is left in a physiologically correct state and there will be no impaired function.
4. The opening of the sphenoid sinuses is seldom necessary and should not be done as a routine procedure.

490 Post St.

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## COMMUNICATIONS

Sir:

Considerable enthusiasm has been expressed for next year's meeting, as it is the twenty-five-year jubilee anniversary of the founding of the Southwestern Medical Association. Dr. Watkins has agreed to accept the assignment of working up a ceremony and a part of the program having to do with this anniversary. It is going to be the attempt to center the whole meeting around the reunion of the men who founded the organization and all of the older men who used to be more active. The thought is to have perhaps one to two hour morning session or at some time during the program during which the men who have been here twenty years or more will receive recognition; a few of them will be given a short period in which to speak, and many of them will be given some form of recognition, perhaps presentation of the various accomplishments of these men during the intervening years. In addition to this, it is thought that some doctor such as Dr. Hertzler, who would have a special appeal for the older men, could give an interesting discussion of medical history of the West, would make an attractive feature on the program. If this same man could be worked in on the scientific program that will be desirable also.

A second reason why this year's program should be particularly successful is that there is about three or four hundred dollars more in the treasury for the purpose of putting on the program than we had at the beginning of this year. The current year's program was financed entirely by registrations and by the membership in the Southwestern

Medical Association. The El Paso County Medical Society donated a smoker, I understand, and all of the other expenses were cared for by this general fund. In spite of this the Association comes into the next year with an increase in its balance. For this reason I hope we can plan on a more diversified program for next year with perhaps ten or even a dozen physicians of outstanding qualifications participating. It is my feeling that if this is done our attendance will be materially stimulated and registrations will take care of part of the increase in expense.

A third factor is that there have been organized sections on Eye, Ear, Nose and Throat and on Internal Medicine within the Society, the chairman of each section to act upon the program committee and perhaps help to stir up some interest in those particular groups. The interest shown in West Texas and New Mexico was rather gratifying this year, and with the meeting being held in El Paso next year I believe that we can look forward to better support than we have had for a number of years from those sections.

Another thing which occurred to me that might help stimulate attendance is to invite all of the x-ray laboratories of this section to participate in a scientific exhibit. Dr. Rawlings of El Paso has been asked to serve as chairman of this Scientific Exhibit Committee. If these laboratories will enter into the spirit of the thing, as I think they will, as they are usually glad to have an opportunity to show interesting series of films, I believe that their interest should radiate out from the laboratories to their contacts with the professional men in their localities and should result in quite a material interest in the Association this next year.

Another thought expressed at the meeting was that if we will choose our subjects which we wish to have discussed and select men particularly with those subjects in mind that our program may be built with more attraction for our members.

Representing the Eye, Ear, Nose and Throat Section, Dr. Biddle of Tucson is chairman and Dr. Spearmen is secretary, I believe. Dr. Hamer is secretary of the Medical Section and would be glad to assist with the programs from a medical standpoint. Dr. R. B. Homan was elected chairman of this section.

Very truly yours,

HOWELL RANDOLPH, M. D.,  
President, Southwestern Medical Association,  
Phoenix, Ariz.

*Solution Procaine Hydrochloride 2% with Epinephrine, 30 c.c. Vials.* Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Non-official Remedies, 1938, p. 74), 0.02 Gm.; epinephrine, 0.05 mg.; sodium bisulfite, 2.6 mg.; benzoic acid, 0.3 mg.; sodium chloride, 8.3 mg.; normal hydrochloric acid, 0.0016 c.c.; chlorobutanol, not more than 5 mg.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich. (J.A.M.A., March 25, 1938, p. 1157).



## NEWS

### General

The 24th annual meeting of the American Association of Industrial Physicians and Surgeons with the American Conference on Occupational Diseases and Industrial Hygiene will be held at the Hotel Statler, Cleveland, Ohio, June 5, 6, 7 and 8, 1939. A program of timely interest and importance will be presented by speakers of outstanding experience in all of the medical and engineering problems involved in industrial health. A cordial invitation is extended to all whose interests bring them in contact with these problems. Information regarding hotel accommodations, etc., may be obtained from A. G. Park, convention manager, 540 N. Michigan Ave., Chicago.

The forty-fourth annual convention of the American Academy of Ophthalmology and Otolaryngology will be held in Chicago Oct. 8-13, at the Palmer House, a bulletin announces.

The academy has a membership of about 2,800 eye, ear, nose and throat specialists and the attendance at meetings is usually well over 2,000. It is said to be the largest organization of specialists in the United States.

Dr. George M. Coats, Philadelphia, is president this year, and Dr. Albert C. Snell, Rochester, N. Y., is president-elect.

### El Paso

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held April 4, 1939, at 12:10 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

"Acute Intestinal Obstruction Due to Torsion of the Ileum" ..... Dr. Henry Safford, Jr.  
Discussion by ..... Dr. Hardy and Dr. Bennett  
"Carcinoma of Thyroid with Obstruction of Trachea" ..... Dr. J. L. Stowe  
Discussion by ..... Dr. Cathcart, Dr. Gallagher, Dr. Waite, Dr. Spearman and Dr. Rheinheimer

A regular meeting of the City-County Hospital Staff was held Apr. 19, 1939, at 6:30 p.m., at City-County Hospital. The program was as follows:

"Sulfapyridine in the Treatment of Pneumonia"  
.....Dr. J. Mott Rawlings and Dr. Louis F. Hamilton  
Discussion by .....  
..... Dr. Ralph Homan and Dr. John Morrison

A regular meeting of the El Paso County Medical Society was held Apr. 10, 1939, at the Hilton Hotel. Mr. H. G. Higbee, federal narcotic inspector for El Paso, was a guest of the Society and spoke at length on the regulations of the Harrison Narcotic Act as it pertains and applies to physicians. A

question and answer period was conducted by Mr. Higbee.

A regular meeting of the El Paso County Medical Society was held Apr. 24, 1939, at 8:00 p.m., at the Hilton Hotel. The scientific program was as follows:

"Immunization in Childhood" ..... Dr. I. M. Epstein  
"Malignancy of the Middle Ear".....Dr. F. P. Schuster  
"Personal Experience with Sulfanilamide" .....  
..... Dr. M. P. Spearman, Dr. J. Travis  
Bennett, Dr. W. R. Curtis and Dr. S. H. Newman

A charity tumor clinic is being organized by the El Paso County Medical Society and will be known as the El Paso County Tumor Clinic. This clinic will meet from 1 to 2 p.m. on the second and fourth Tuesdays of each month at the City-County Hospital for the purpose of a group consultation on tumor cases referred from the various departments of the City-County Hospital and Out Clinic. Patients will then be referred back with recommendations to the physician who referred them. Only charity patients are accepted at present.

The chairman, surgeons, pathologists, radiologists and internists are expected to be present at all meetings. Staff members in the other specialties are to be notified and are expected to attend meetings when there are cases to be presented which are related to their respective specialties.

The tumor clinic committee is composed of Dr. L. M. Smith, chairman, and Drs. W. W. Waite and J. W. Cathcart.

El Paso City-County Health Department won first place in its division for the fifth consecutive year in the national contest staged by the United States Chamber of Commerce, according to notice received by Dr. L. T. Cox, director.

The department's first place award was made for the "effectiveness with which the community was meeting its health problems," the notification order said.

The El Paso division includes the states of Texas, New Mexico, Arkansas and Oklahoma.

## MISCELLANY

### AS THE LAYMAN VIEWS IT

Members of the medical profession are sometimes at a loss to understand the attitude of the lawmakers, not only in Michigan, but in other states as well, towards the healing cults. The attitude, however, on the part of the legislator is one of fair play. He tries to view all those who essay to take care of the sick in the same light. To him, there are schools of medicine, so-called, and in all fairness, each should be given an equal opportunity with the others.

The members of the regular medical profession, however, have a different view. It is with them a matter of fair play to the sick and not to those who would aspire to care for them. The doctor is not and has never been reconciled to the idea of "schools" of medicine, interpreted as the various healing cults. The state at large has officially disavowed a belief in cultism. To be more specific, there are no state endowed schools or colleges for the purposes of teaching the tenets of any cult. The state recognizes only scientific medicine. Cultism in the matter of the care of the sick should be discouraged in every way, in the interests of the afflicted who are not in a position to evaluate the merits or demerits of healers.

The regular medical profession has raised its own standards. It has made use of such collateral or ancillary sciences as chemistry, physics, biology, and has built up a body of knowledge that requires not only years of special training but one to several years of practice before the candidate is deemed sufficiently qualified to attend the sick. If there is any unfairness, it consists in compelling certain young men and women to fulfill the state requirements of medical education and experience and allowing others to practice after attending cult institutions, most of which, so far as we know, are outside of the state. In fairness, every aspirant to the healing art should be compelled to qualify in the best state recognized schools, of which two are located in Michigan.

The absurdity of cultism is seen if we could apply the term to law or to engineering. Imagine having a deed to property written according to tenets of a certain legal cult, or the building of a bridge according to the peculiarities of a certain engineering "cult" with some special theory of mathematics. There is only one medicine, that which is taught at the University of Michigan or Wayne University Medical School, or in similar institutions in other states, or highly endowed independent universities throughout the land.—*Jo. M. S. M. S.*

#### LIFE EXPECTANCY

Babies born in 1938 have a 62-year lease on life. The total "life expectancy at birth" for the United States last year, according to computations based on certain estimated factors released recently by the United States Public Health Service, was 62 years. This figure compares with an expectancy of 60.26 in 1931 and 60.9 as estimated for 1937.

While still somewhat below the biblical promise of "three score and ten," the life expectancy now is almost twice as great as it was 100 years ago. For the seven years since 1931 a gain in expectancy of 1.74 years is indicated, while a gain of 1.1 years is shown in 1938 over 1937.

The expectation of life at birth, it is explained, "is the average age at death of a hypothetical group of persons, each of whom is subject to the same age

specific mortality rates throughout his lifetime.—*Jo. F. M. A.*

#### ISOLATION OF INFECTIOUS DISEASES

##### *Separate Wards or Rooms Obligatory:*

The following diseases (with the exception of rabies) are extremely contagious via the air.

Whooping cough, measles, chickenpox, smallpox. Vectors: air, contact, fomites, carriers.

In the case of smallpox a separate, isolated wing or building should be provided.

Rabies. Vector: contact with saliva.

##### *Cubicle Isolation Obligatory When Separate Wards or Rooms Are Not Available:*

The following diseases are relatively less contagious via the air, and, therefore, in case of necessity due to overcrowding, can be treated together in the same ward, *provided strict cubicle isolation obtains.*

Scarlet fever, diphtheria, tuberculosis. Vectors: air, food, milk, water, fomites, carriers.

Poliomyelitis, encephalitis, epidemic. Respiratory or alimentary portal of entry undecided; therefore vectors not definitely known.

Meningitis, epidemic, mumps, German measles, influenza, bronchitis, pneumonia, acute nose infections, acute throat infections. Vectors: air, carriers, fomites.

##### *Open Wards or Cubicles:*

The following diseases are not air borne and may be treated together in either cubicles or open wards, *provided the strictest aseptic technique is practiced by nurses and doctors.*

Gonorrhea, impetigo, erysipelas. Vectors: contact, fomites, carriers.

Typhoid fever, dysentery. Vectors: food, milk, water, flies, excreta, fomites, carriers.

Florid Syphilis. Vector: contact.

*Ohio St. Med. Jr.*

#### REPREENSIBLE MEDICAL ENGLISH

##### Twelve Valuable Points in the Language of Medicine

1. "Case" must not be used for "patient," nor "cure" for "treatment."
2. "Tubercular" means "nodular"; "tuberculous" means "infected with the bacillus of tuberculosis."
3. "Cystoscope" is a noun and must not be used as any other part of speech.
4. It is possible to "operate a cotton-gin," *but it is not possible to "operate a patient"—nor his appendix.*
5. "Acute appendicitis" is common, but an appendix cannot be "acute."
6. "Acute abdomen" is beyond the pale.
7. "Pathology" means the "science of disease"; it is therefore absurd to speak of "pathology in the right lung."
8. "Positive serology" is the worst type of jargon; apparently "positive Wassermann reaction" is usually meant.
9. "Specific" and "luetetic" are convenient to ob-



scure meaning from patients' relatives, but "syphilitic" is better in writing for the medical profession.

10. It is incorrect to say the patient had "no temperature." One may say that there was "no elevation of temperature," but it is shorter to say there was "no fever."

11. "Shot" is perhaps the most abused and overworked word in medical literature. Shot is of lead.

12. Bad spelling is unpardonable, so a good dictionary is indispensable.—*Jr. Med. Assoc. Ga.*

#### THE TREND OF THE TIMES

A mad world, adrift from traditional moorings, and bent upon the institution of weird policies and techniques, may be expected to attempt experiments with euthanasia, legalized abortion and infanticide, for nothing is sacred to the so-called modern mind.

We shall start with euthanasia, cautiously and conservatively, but any kind of a beginning will serve as a fulcrum of great potentiality; the possibilities are fascinating.

Every argument for legalized abortion is a brief for infanticide; and one is no more barbarous than the other, a truth which no sophistry can confute, for the objectives are exactly the same. Infanticide, however, should be the preferred technique, for it would spare the mother the greater risks of abortion as regards morbidity and mortality. Why hazard maternal infection, endocrine mischief and what not, when the mere killing of a baby would insure relative safety? And there is no essential difference in the destruction of an organism at three months of gestation or at nine months. Our vote goes for infanticide.

No more incredible than the foregoing possibilities is the effort to inflict upon society political, bureaucratic and lay schemes for ordering the practice of medicine; here, despite the shortcomings of the present system of practice, we have the last failure of vision, the last measure of immature and irresponsible thought.

All of these steps are in consonance with the "morals" and the bizzare "statesmanship" of the day. Such is the trend of the selfish and humorless times.—*Medical Times.*

#### THE EVER-BOILING WITCHES' BREW

Each week the Food and Drug Administration receives up to a hundred communications from butchers, bakers, housewives, automobile mechanics, Indian squaws, and other equally unqualified persons who are interested in marketing a new food or a drug, said Theodore G. Klumpp, M. D., Chief Medical Officer of the U. S. Food and Drug Administration, in a recent address. Each of them has a desire to get rich quick, or a yen for pharmaceutical experimentation, or a crackpot notion that some weed growing in his garden has medicinal value. He related that a short time ago he encountered a box of red pills sold as "Revivo" pills by a Chicago doctor. Upon inspection of the pills it was noted that although they were supposed to be the same,

there were slight variations in size, and shade of red. When analyzed it was found that the package was an indiscriminate mixture of three different kinds of pills; one was a cathartic, another was essentially thyroid, and the third contained strychnine. When the physician was investigated, it was found that he bought stocks of salvaged drugs from various sources, mixed all the red pills together and called them "Revivo." Another collection of pills of a different color was labeled "Retardo."

"We encountered another drug manufacturer who had had on hand a large stock of miscellaneous salvaged liquid preparations. The liquids were all dumped together into a large cauldron, mixed, bottled, and sold as a liniment. The old Food and Drugs Act had no provision for dealing directly with practices such as this. In fact, our inspectors don't even have authority to enter the factory to see what's going on. I'm glad to say, though, that most manufacturers do not stand upon a strict observance of their legal rights in this respect."—*N. Y. St. Jr. Med.*

#### 10,000 CHILDREN

Statistical biography of 10,000 children born in any one year:

Who Die—

1,323 die before the age of 20.

Who Live—

34 are crippled.

15 are deaf or hard of hearing.

5 are blind.

17 are visually handicapped.

260 have defective speech.

86 are so emotionally unstable or delinquent that substituted care is needed.

8 are so mentally defective, dependent, or delinquent that institutionalization is needed.

78 are mentally deficient, and in need of special classes.

347 are mentally handicapped, and in need of opportunity classes (vocational level—manual labor).

1,214 are dull normal, and in need of occupational classes (vocational level—semiskilled trades).

5,206 are normal, and fit into regular grades (vocational level—skilled trades and small business).

1,301 are bright, making a college education usually desirable (vocational level—larger business enterprises and professions).

20 are sufficiently gifted to make professional and research education highly desirable.

—*Calif. and West. Med.*

#### "SLEEPTIGHTS"

The physician should be aroused to the necessity for legislation in the sale of drugs under the heading of barbiturates which have flooded the market in the past five years. These sleep inducers have



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PRIOR to the discovery of Insulin, diabetes in a child led to severe restrictions in his mode of life and, in most cases, an early death. Today, in contrast, there are hundreds of happy, active diabetic children—leading practically normal lives with the aid of Insulin.

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been taken up by the public so generally that their use has reached alarming and uncontrolled, though not uncontrollable, proportions, and something should be done about it. Evidence of the vast growth of addiction is the testimony of druggists in large cities who claim that sleeping pills are now sold as easily and cheaply as aspirins or laxatives. Yet they are almost as inherently dangerous as morphine.

Mr. Average MAN, suffering from insomnia, no longer seeks the advice of his doctor, but rather that of his friend or friend's friend, and goes to the corner drugstore to buy his relief—a relief pregnant with dangers of which he knows nothing. Soon enough one tablet is not sufficient and he takes a second, and then a third, and so on until the accumulative effect renders him a sick man. Any number of distressing symptoms may occur, ranging from acute toxemia, kidney ailment, and sexual disorder to temporary mental disturbance, often disconcerting to the diagnostician.

Insomniacs are doping themselves with a score of hypnotics sold under a variety of trade names, all of which drugs can be purchased without prescription. Unfortunately they are self-administered without cognizance of their contingent danger. This long line of proprietary medicines originates from the first of the barbituric acid derivatives produced by the German chemist, Emil Fischer, in 1903, and are only a sort of forerunner of what is yet to come. Almost every month pharmaceutical manufacturers place a new compound on the market. Since we are aware that these drugs if misapplied can produce irreparably harmful pathological results, should we not concentrate on a law which will protect the people from these much publicized "sleepights"?—*Wis. Med. Jr.*

The science of medicine is advancing almost too fast for assimilation. We must still look to the clinician with a broad outlook, to correlate it with what must remain equally important, the ART of medicine. "Do not fancy yourselves physicians because you have acquired the habit of applying to the diagnosis of diseases the ingenious proceedings by which science has become enriched since the

beginning of this century. The admirable diagnostic methods—auscultation and percussion—given by Laennec to the public for the general good, and of which no one is allowed to be ignorant, are in our hands what the telescope and magnifying glass are in the hands of the astronomer and the naturalist—instruments intermediary between external objects and the mind; but a magnifying glass will no more make a Galileo than a stethoscope will make a Sydenham."

So said Trousseau nearly eighty years ago. We will do well to remember it today.—*Bark: Liverpool Med.-Chir. Journal.*

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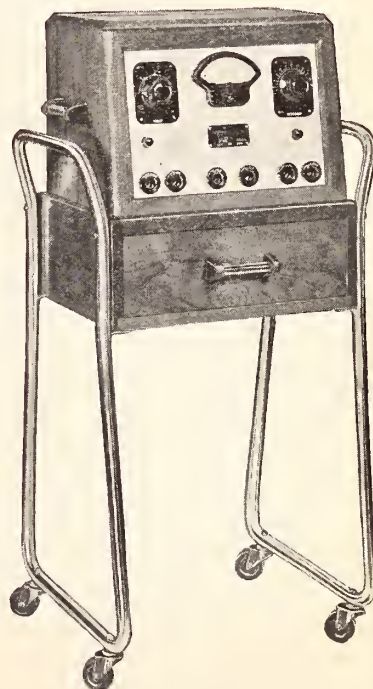
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## BOOK NOTES

**THE KNACK OF SELLING YOURSELF.** By James T. Mangan. Pp. 234; cloth; \$2.50; Chicago, The Dartnell Corp.; 1938.

If you want to be a real success, all in the world you have to possess, besides, of course, a little knowledge of the technical side of your chosen life's work, is, according to the author of this little book, an ample supply of expression, promise, guts, approach, diplomacy, familiarity, reliability and persuasiveness. Very simple, isn't it? I think the author should have prefaced his book, "Shake well (with a grain of salt, of course) before swallowing." If anyone could follow all the suggestions contained in this somewhat over-optimistic book the result would more than probably be the eighth wonder of the world, no less.

This book, "The Knack of Selling Yourself," however, has many redeeming features. Though it somewhat reminds me of trying to teach a beginner to swim by tying on waterwings and giving instructions to be carried out in the bathtub, there is an abundance of good sound advice on putting yourself across to other people. The Mr., Mrs. and Miss "Milquetoasts" of the world could derive much benefit from the reading of this volume in the way of developing a little ego.

I have no intention of "damning with faint praise" (to borrow from Alexander Pope), as the volume is really of worth; there probably isn't anyone but who could get a few pointers of great value from it. The suggestions on public speaking should be of special interest to the physician who is asked to speak before a meeting, for though the paper may be of great interest, much of its value may be lost because of the lack of eloquence on the part of the speaker.

The author knows his subject thoroughly and conveys his ideas in a clear, concise, interesting manner that makes reading easy. If you are of the "timid soul" type, or feel that you are lacking in aggressiveness, by all means read this book.—A. R.

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**IMMUNITY PRINCIPLES AND APPLICATION IN MEDICINE AND PUBLIC HEALTH.** An exposition of biological phenomena of infection and recovery of the animal body from infectious disease, with consideration of the application of the principles of immunity to diagnosis, treatment and prophylaxis and their usefulness in the control of epidemics. By Hans Zinsser, M. D., professor of bacteriology and immunology, Harvard Medical School; John F. Enders, Ph. D., assistant professor of bacteriology and immunology, Harvard Medical School, and LeRoy D. Fothergill, M. D., assistant professor of bacteriology and immunology and associate in pediatrics, Harvard Medical School. Fifth edition of "Resistance to Infectious Disease"; The Mac-Millan Company; New York; 1939.

This book contains material as indicated by the title and sub-title.

The authors are men of unusual scientific attainment, and have had the advantage of large li-

baries for obtaining material having to do with the subjects on which they write.

The book is divided into two sections. The first deals with principles and theory, and the second with special immunological problems and individual infections. There are 16 chapters in the first section and 14 in the second. Probably the most interesting part of section one has to do with hypersensitiveness. Five chapters of about 100 pages are devoted to this subject. They recognize what an important part that allergy plays in medicine today. Chapter 17 on virus disease is probably the most interesting and suggestive part of the second section.

We are learning also more and more about viruses, and the probabilities are that along with hypersensitiveness they will play a more and more important role in the medicine of the future.

The book is thoroughly practical, and is one which every physician who is interested in scientific medicine will wish to keep abreast with medical progress. It is recommended to all physicians.

The work of the publishers is all that can be desired. There is little, if anything, about the book to adversely criticize. One wonders if the bibliography, which is extensive for each chapter, could not have been made to occupy less space by use of

smaller type without detracting from the value of the book.—O. H. B.

**GONORRHEA IN THE MALE AND FEMALE.** By P. S. Pelouze, M. D., assistant professor of urology, University of Pennsylvania, consulting urologist to Delaware County Hospital, special consultant to United States Public Health Service, member of board of directors, American Social Hygiene Association and American Neisserian Medical Society. Third edition, thoroughly revised; 489 pages with 144 illustrations; Philadelphia and London: W. B. Saunders Company; 1939; cloth; \$6.00 net.

Little need be said, from the standpoint of a review, on this excellent text. The author and his works are well known, the first two editions having been enthusiastically received by general practitioners and urologists.

The revised third edition is an excellent piece of work. The chapter on sulfanilamide is beautifully written, the author calling attention to the dangers of its use. His observations regarding the claims made for sulfanilamide in the treatment of gonorrhea correspond with the results obtained by most of us who have followed our cases closely.

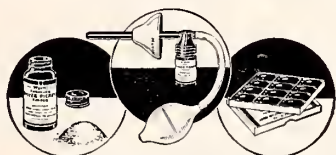
Part 3 of the book, entitled, "The Medical Profession and Gonorrhea Control," is very thoroughly compiled and is a revelation to us all.

The book can be thoroughly recommended to the medical profession.—A. W. M.

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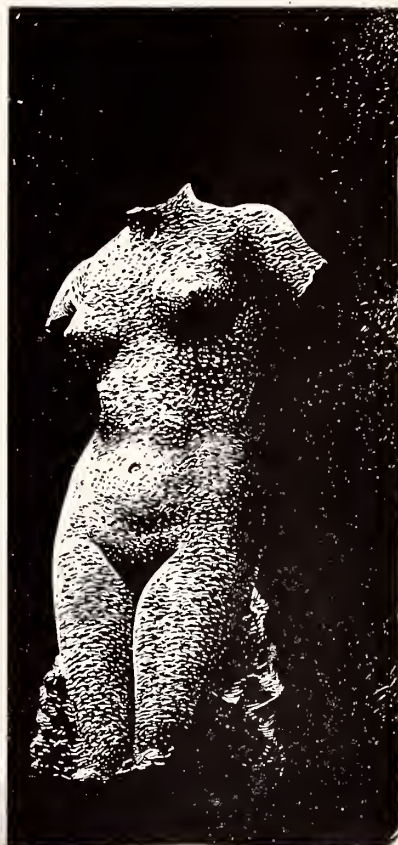
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Suddenly deciding in the face of an El Paso wind-storm to take off . . . so to Silver City for the night . . . and Monday off through snow-clad mountains to the Grand Canyon . . . Bright Angel, with deer in the yard, sand-blasted woodwork, Indians with hair-ribbons . . . in the dining room, welcome place, seeing our one-time professor of medicine, Winans of Dallas . . . his charming wife and lively daughter Sue . . . hiking up and down the rim . . . a sight beyond human comprehension . . . no telephones to stab peace and rest . . . irritation and amusement over comments by a herd of Yankees who could not hush even in God's presence . . . through beautiful piney woods via Prescott to warm sunny days again . . . to Phoenix ahead of schedule . . . ears ringing and legs weary . . . the lovely home of Hamer and his partner . . . flowers and starry night . . . grateful sleep . . . early to the place of Council . . . as usual, Walsh of Douglas, first to greet us . . . Harbridge again welcoming the brothers . . . Bakes, speaking of sinus situation . . . Palmer, signing the boys in . . . exhibitors late in setting up their wares . . . Biddle of Tucson, with plans for EENT Academy come autumn in El Paso . . . lunch with Williams of Phoenix, one-time anatomy instructor of ours . . . the lovely home of Day of Phoenix, old schoolmate . . . Lytton Smith, the bone man . . . Warrenburg, bringer of babies . . . envious of Howell Randolph with his five friendly youngsters who yell for Daddy in unison . . . if never elsewhere Howell is the hero to that brood . . . Ochsner of New Orleans holding them spell-bound . . . Hal Rice yielding to Smith of Nogales as prexy . . . Kober presiding . . . Bailey of Phoenix, alert in opinions . . . Brown, Mikell and Linton up from Tucson . . . Yandell saying cheery hellos . . . Prexy Smith asking us for a special blurb for the Southwestern . . . Morrison of San Francisco, raising an eyebrow over sulfanilamide . . . Cary of Dallas smiting with lusty blows the enemies of medicine . . . Franklin of Phoenix wondering if we were a Republican (never yet!) . . . by the way, Texas has a standing reward for any Republican brought in to a county seat dead or alive . . . Anthony of Gallup and Gregory of Anthony (N.M.) boosting for the New Mexico session in Gallup come May . . . Cary of Dallas gathering his old students together for a chat about old Baylor Med. Coll. . . Johnson, prexy of Maricopa County, presiding nicely over the steaks Friday night . . . Kober of Phoenix as busy a greeter as ever . . . Running of Phoenix and his lovely wife, a childhood friend of ours . . . the Woodmans of Phoenix, great golfers . . . our Mrs. winning a prize at the Auxiliary party—oy! . . . Thoeny of Phoenix shakin' dat foot . . . Swackhamer of Superior signing up for a prize . . . De Pinto of Phoenix surprised at our youth . . . Hol-

brook disliking some of the dancing at the big dinner . . . Varner of El Paso wiring inability to appear as fraternal delegate from Texas State . . . Jewell Smith of Phoenix, always pleasant . . . Sweek, just time to say howdy . . . twitting the boosters about last winter's snow in Phoenix . . . now the profusion of flowers and bright lawns . . . Yount of Prescott gathering the money . . . cocktails in the patio . . . cocktails in the bar . . . babel of tongues . . . relaxing smiles . . . saying good-bye to the Hamers and their hospitality . . . off in the bright morning with 1,000 to 2,000 grand memories of a great session . . . so to home to become re-acquainted with the two small daughters.

To turn, now, to the practitioners themselves qualified and unqualified. While we have no time to trace the development of the universities and societies in the south of England which gave degrees and licenses in medicine, we may take it that from early times Oxford and Cambridge were sending out a very limited number of medical men; then the surgeons in 1461 (though hampered for nearly 300 years by their connexion with the barbers), the physicians in 1518, and the apothecaries in 1616, all in turn, received powers to control practices in their own subjects. These last were all London bodies with fairly firm control over practice in the metropolis, but with lessening powers as the distance from London increased, so that by the time

Lancashire was reached their influence was small. Probably a lot of the practice that was done in our part of the world was, as an act of Henry VIII aptly puts it, "to the danger of many of the King's liege people that cannot discern the uncunning from the cunning." The act further says that, "Common artificers, as smiths, weavers and women, boldly and contumably take upon them great cures and things of difficulty, in which they partly use sorcery and witchcraft, and partly apply such medicine unto the diseases as be very noxious and nothing metely thereof."—*Leech: Liverpool Med.-Chir. Journal.*

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SEVEN DAYS AND  
ONE DOSE EACH  
DAY FOR THE  
NEXT SEVEN DAYS.

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TWO DOSES EACH  
DAY FOR 14  
DAYS.



5 All injections should be given subcutaneously. Many clinicians prefer to make the injections in such areas as the abdominal wall, where the tissues are loose.



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VOL. XXIII

EL PASO, TEXAS, JUNE, 1939

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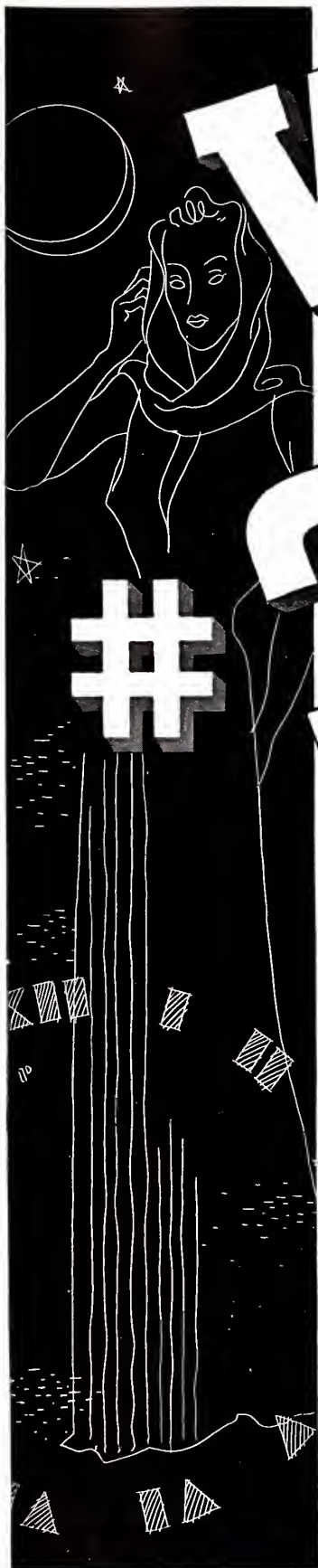
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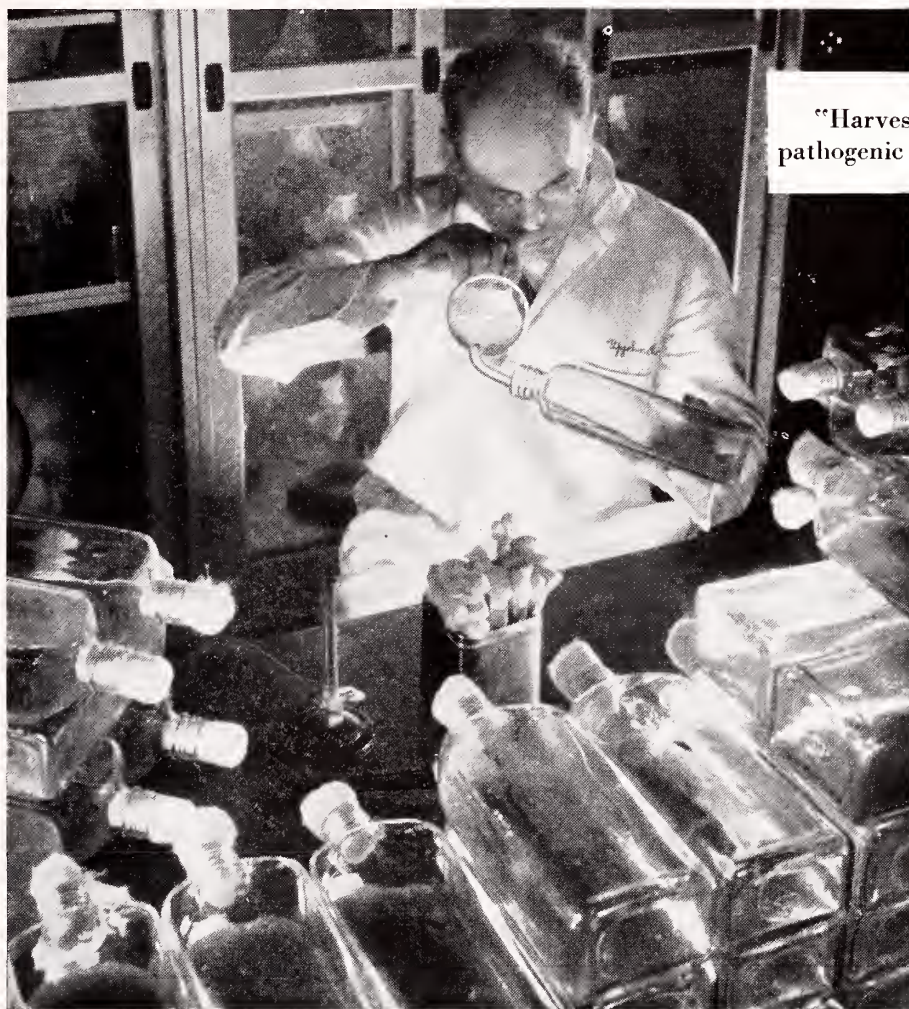
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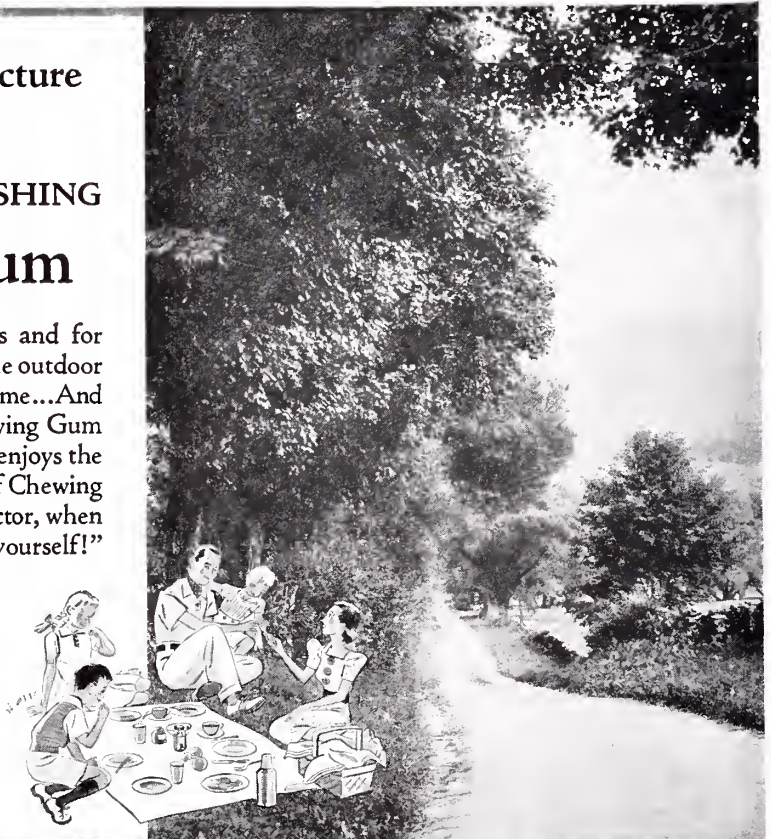
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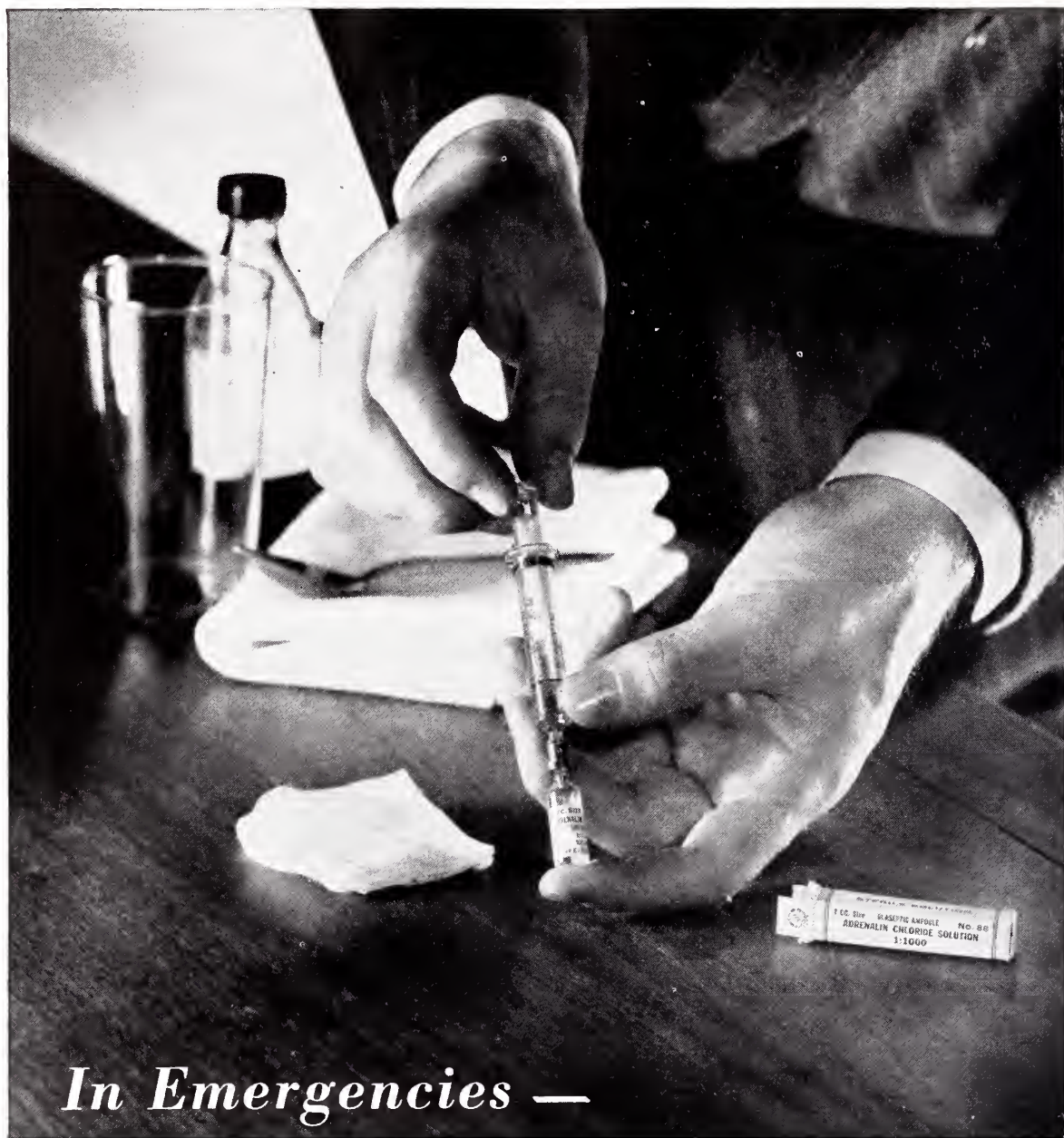
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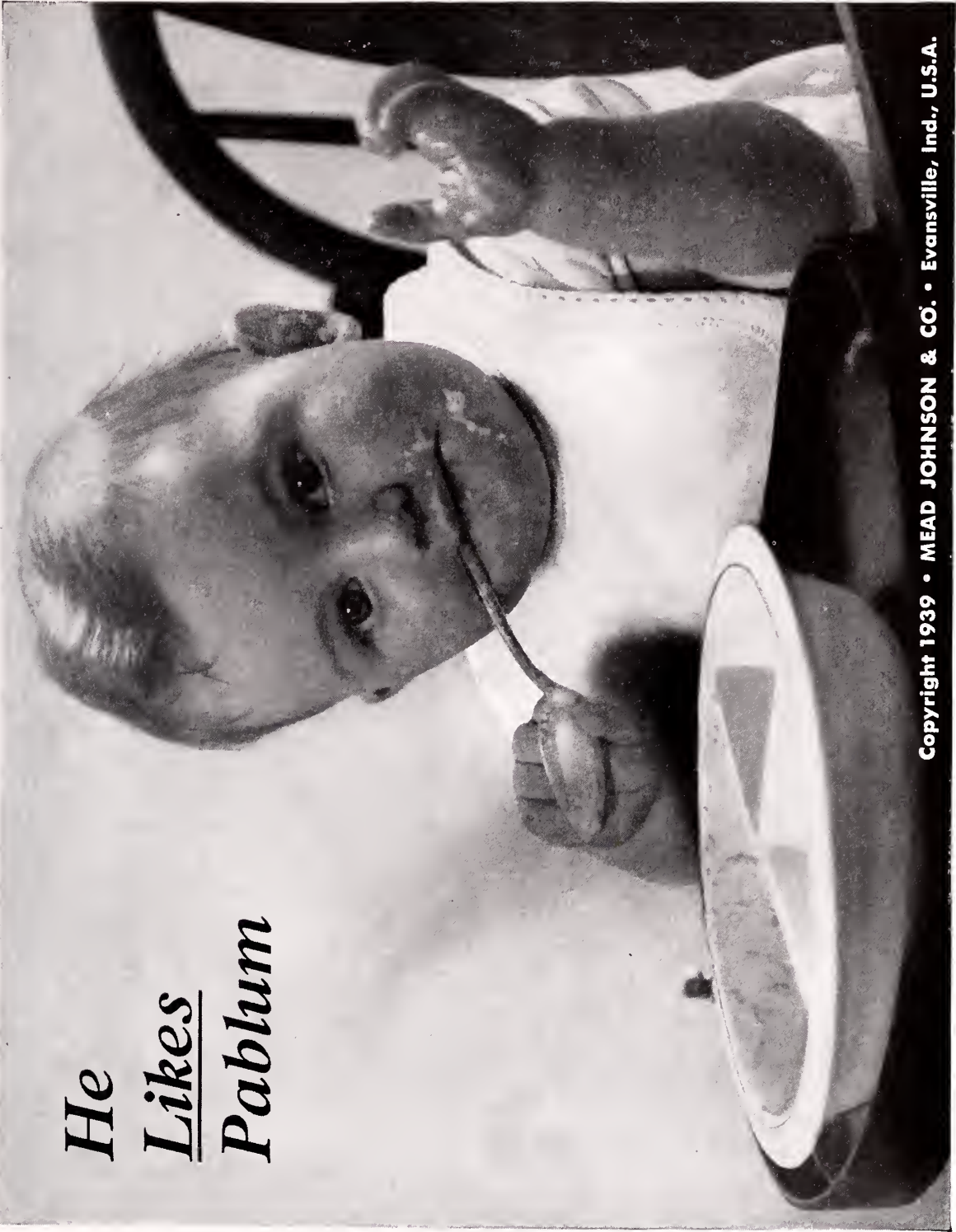
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VOL. XXIII

EL PASO, TEXAS, JUNE, 1939

No. 6

## Nocturnal Enuresis in Adults

F. E. WEATHERBY, M. D.

Lieutenant Colonel, Medical Corps, U. S. Army  
*El Paso, Texas*

SINCE nocturnal enuresis is most common in childhood, the majority of writers on this subject have been concerned with children. Adults who are afflicted have usually been looked upon as constitutionally inferior, without a sufficiently favorable prognosis to justify extended observation.

Twenty cases of this condition have been studied during the past year: two, aged 17; eight, 18; eight, 19; one, 21 and one, 29. Fifteen were enrollees of the Civilian Conservation Corps and five were recruits in the Regular Army. No patients having a psychosis or suffering from an organic neurological disease have been included.

### HEREDITARY FACTORS

A definite history of nocturnal enuresis in other members of the family was obtained in five cases. In one of them the mother had suffered from enuresis; two had brothers who were bed-wetters; one had a maternal cousin and another three maternal cousins, who suffered from the same condition. Conditions other than enuresis were found in the families of six patients:

In two cases one parent had died of kidney disease or of "dropsy"; one had an alcoholic father; one had a sister who suffered from fainting attacks and was backward at school; one was a full-blooded Indian from a large family of which seven sisters had died in infancy; another had three brothers who died in very early life of unknown cause.

### CHILDHOOD DISEASES

Most of the patients had had the usual diseases of childhood but in the majority these infections occurred after the habit of enuresis had become established. In one case there was a history of measles at 3 years and in another at 5 years. The patient with the alcoholic father claimed to have been kicked in the kidney region when an infant. Two patients gave a history of pneumonia at 4 years or younger. One of them, who was rather small, wore an 8½ size hat, and was apparently hydrocephalic. Other individual environmental factors during childhood are not known.

### ONSET

Eleven patients dated their enuresis from their earliest memory and their condition seems to have been a persistence of infantile habit. One of the eleven believed that his condition followed measles at 3 years. Three patients described onset at 8 or 9 years, one as in late childhood, "less than 14". One said that his trouble began after measles at the age of 13. Another gave onset at 18 "after a spider bite", childhood enuresis having ceased at 9. One began at 19, after acute alcoholism that was followed by a severe upper respiratory infection. In one the condition began at 18, one month after he had been struck in the lumbar region in a fall from a ladder. An abscessed tooth at the age of 17 was the attributed cause of another patient's present condition, his childhood enuresis having ceased at the age of 8 years.

### EDUCATION

Two patients were entirely illiterate. One patient completed the third grade at 11 years, three completed the seventh grade and five the eighth grade. One completed the first year of high school at 17 years and one was a high school graduate. Seven others were able to read and write. A number of patients were somewhat backward at school, but the entire group is not much below an educational cross-section of the other members of the CCC who were not suffering from enuresis.

### MENTAL AGES

Three individuals were classed as 10 years or less; two as 12 years or lower, and the others ranged from inferior to average adult.

### NEUROTIC MANIFESTATIONS

One patient was very timid and complained of pain in the lumbar region; two had slight tremors and gave accounts of subjective nervousness; one was somewhat underweight and poorly developed. Associated symptoms sufficient to justify a definite diagnosis of hysteria or neurasthenia were not found in any of these cases.

### PREVIOUS COURSE OF THE DISORDER

Widely differing previous histories were obtained. In one group of seven patients, enuresis had occurred from every night to twice per week; two of these cases had late onset at the ages of 18 and 19.

In nine patients one week or more was the usual

\*Read at the annual meeting of the American Psychiatric Association, San Francisco, Calif., June 8, 1938.

From the Neuropsychiatric Section, Medical Service, William Beaumont General Hospital, El Paso, Texas.

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interval with free periods as long as three months in one case.

A third group of four included one who described enuresis at irregular intervals, one who recovered from childhood enuresis at 13 but had a recurrence in the Army at 18, one who ceased at 21 for more than five years but relapsed at 27 and showed enuresis after enlistment at 29 and one who had late onset in childhood, wet bed in CCC camp at age of 17, was free from the habit for three years after the age of 18 but relapsed at 21, after enlistment in the Army.

#### LABORATORY STUDIES

Routine urine examinations, blood counts, Wassermann and Kahn reactions, blood chemistry for non-protein nitrogen and sugar estimation, phenol-sulphonphthalein excretion and Fishberg concentration tests were carried out in all cases. All of these tests were negative and no evidence of nephritis was found in any case. Twenty-four hour measurements were carried out in an endeavor to discover cases of diabetes insipidus. The total amounts of urine passed were within normal limits in all cases, and routine x-rays of skulls failed to disclose any abnormality of the sella turcica.

In making modified Mosenthal tests for specific gravity variations with patients on ordinary diet, a rather remarkable day-night ratio was discovered in one patient who passed 276 c.c. from 7 A.M. to 7 P.M., and 800 c.c. between 7 P.M. and 7 A.M., a D-N ratio of approximately 1:3. This reversal of normal relationship would ordinarily be associated with chronic nephritis and would be accompanied by variations in the Fishberg concentration test and other kidney studies but the patient showed no other laboratory or clinical evidence of kidney disease.<sup>1</sup>

Repeated day-night comparisons were then made of all patients, with the result that a number showed repeated D-N ratios of less than 2:1. It was therefore considered that in some cases, enuresis might be dependent upon altered kidney habit.

Pawlow considered all acts as reflexes<sup>2</sup> and from that standpoint the complicated physiologic action of the kidney might be so regarded. It is clinically remarked that the normal kidney "concentrates" at night and "dilutes" during the day; this is probably conditioned by our life-long habit of sleeping and fasting at night without fluid intake, the reverse holding true during the day.

It has been common practice in cases of enuresis to restrict fluids at night. However, if the cases having an unusual amount of urine at night are abnormally conditioned, the reconditioning process might well include extra liquids during the day. Increase of fluids in such cases is an unusual procedure and if successful in altering the day-night ratio in any appreciable degree, would offer a new suggestion for treatment.

A tabulation of day-night ratios (a) with the patient unrestricted and (b) with fluids withheld at night but increased during the day is as follows:

TABLE I  
Patient H

(a) Fluids Unrestricted			(b) Fluids restricted at night but pushed during day.		
Day	Night	D-N Ratio:	Day	Night	D-N Ratio:
577	675	7:8	980	430	2:1
805	1650	1:2	900	1005	9:10
538	375	3:2	525	950	5:9
493	750	2:3	660	1750	3:8
			1265	850	3:2
			985	1000	1:1
			865	1000	9:10
A strong tendency to nocturnal polyuria is shown with increased fluids during the day, in spite of restriction in the evening.			885	900	1:1
			550	1075	1:2
			425	440	1:1
			550	400	11:8
			600	620	1:1
			400	520	4:5
			600	730	6:7
			475	425	9:8
			450	750	3:5

In the case of Patient H (Table I) improvement was shown with alteration of fluid intake, and this patient had no enuresis for a month prior to his discharge.

Some further results in other patients (with an extra quart of water or other liquid during day and no fluid allowed after 5 P.M.) are presented in Table II.

TABLE II

(a) Fluids Unrestricted			(b) Fluids restricted at night but pushed during day.		
PATIENT N					
Day	Night	D-N Ratio:	Day	Night	D-N Ratio:
635	275	7:3	2880	680	4:1
490	250	2:1	840	340	5:2
			430	330	4:3
Never wet bed after arrival at hospital			320	360	8:9
			295	620	1:2
PATIENT F					
405	300	4:3	519	350	10:7
565	225	8:3	740	1300	4:7
595	325	2:1	785	575	4:3
665	970	2:3	1220	1150	1:1
Wet bed only once; free for three weeks when discharged.			865	1000	4:5
			765	750	1:1
			925	725	9:7
PATIENT L					
453	375	5:4	638	320	2:1
248	375	2:3	710	310	7:3
182	375	1:2	610	585	1:1
524	360	4:3	865	575	8:5
481	360	4:3	425	400	1:1
585	450	4:3	700	345	2:1
D-N ratios increased by regulation of fluids still less than text-book normals. No enuresis while in hospital.			500	350	7:5
			500	375	4:3
			580	425	4:3

In Patient T, there was no success in changing D-N ratios, but less total fluid was taken in 24 hours while on this regime.

TABLE III  
Patient T

(a) Fluids Unrestricted				(b) Fluids restricted at night but pushed during day.			
Day	Night	D-N Ratio:	Total	Day	Night	D-N Ratio:	Total
875	900	1:1	1675	650	435	6:4	1085
740	655	1:1	1405	420	625	4:6	1045
775	750	1:1	1525	525	750	5:7	1275

No enuresis was observed in this patient during a period of five weeks.

It was not found that all enuresis patients have a nocturnal polyuria, but this condition may be present even when the primary cause of the enuresis is some other condition such as bladder irritation. Thus, a patient with trigonitis presented:

Day	Night	D-N Ratio:
925	1400	2:3
440	475	1:1
250	1275	1:5

#### COURSE IN HOSPITAL

Of three cases of mental deficiency (moron), one patient showed no improvement, one wet bed only once in three weeks, and one showed no enuresis for five weeks prior to discharge. (The latter case had late onset at 18 after acute respiratory disease.)

Of six patients with familial tendency or poor heredity, one showed no improvement, two (with cousin bedwetters) showed no enuresis for five weeks prior to discharge, and in three cases (one of whom had one reversed D-N ratio) time was insufficient for adequate observation.

Of three cases classified as inferior, one patient who was hydrocephalic and one whose condition followed measles at 13, made no improvement. The other patient left without authority and further observation was impossible.

Two patients were found to be suffering from trigonitis and ceased enuresis completely under treatment with argyrol instillations.

The high school graduate for whose enuresis no

cause could be assigned, was not observed a sufficient time for any conclusion to be drawn. One patient with a history of pneumonia in infancy was free for two weeks prior to discharge. A patient whose condition began at 18 following an abscessed tooth was also free for two weeks.

In three cases no other etiological factor than reversed D-N ratio was discovered. These patients had no enuresis for one month, six weeks and seven weeks, respectively, prior to their discharge.

#### SUMMARY AND CONCLUSIONS

1. In a study of twenty cases of nocturnal enuresis in young adults, five patients had a definite history of hereditary or familial tendency toward this disorder. Six others had rather poor heredity in other respects.

2. Three of the twenty patients were mentally defective with mental ages below 10 years and three others were considered to be constitutionally inferior.

3. By no means should all adults suffering from nocturnal enuresis be considered as defective inferior or constitutionally psychopathic.

4. In five cases, repeated day-night urine ratios of less than 2:1 were demonstrated and in three of them no other etiologic factor for their enuresis was found. A group of cases may be separated in which nocturnal enuresis is associated with reversed kidney-habit and in a broad sense this reversal may be looked upon as a conditioned reflex.

5. In addition to the usual restriction of fluids in the evening, an attempt was made to re-condition these patients by forcing extra fluids during the day. This method was particularly successful in three cases in which no other etiologic factor than reversed or lowered D-N ratios was found and is offered as a new suggestion for treatment.

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## Sulfanilamide in Treatment of Brucellosis

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#### INTRODUCTION

IN the vicinity of Safford there occurs a malady which has been given the lay designation of "ditch fever." The symptoms vary from those typical of typhoid, brucellosis, trichinosis or malaria to those which might vaguely apply to any number of diseases.

According to Huddleson<sup>1</sup>, "The clinical symptoms of undulant fever are extremely variable and complex, so much so that it is difficult for the clinician to make a diagnosis of the disease without the aid of laboratory tests. There are two chief forms of the disease, the acute and chronic. The chief

symptoms and signs which characterize the acute form are as follows: weakness, especially in the afternoon and evening, loss of appetite, occipital or frontal headache, drenching sweats, chills, pains in the back, joints, muscles and abdominal region, cough, constipation, insomnia, frequent and persisting nose bleeding, intermittent and remittent fever, loss of weight, enlarged spleen, enlarged peripheral lymph glands, reduction in hemoglobin and leukopenia with a relative lymphocytosis. The onset of the disease may resemble the symptoms and signs of influenza, or it may be characterized only by weakness and lassitude without any noticeable elevation of temperature for one week to ten days.

The chronic type of the disease is characterized

<sup>1</sup>Read before 48th Annual Session, Arizona State Medical Association, Phoenix, April 13-15, 1939.



by symptoms which in most instances do not resemble those seen in a typical case of undulant fever. There are data which indicate that many cases of the chronic form have emerged from the acute form of the disease. The symptoms and signs that are usually observed in the chronic form are as follows: asthenia, readiness to fatigue, sense of fullness at top of head, pain in the occipital region, in the vertebral region, and in various joints. Nervousness, apprehensiveness, impairment of memory, lack of emotional control, melancholia, gastro-intestinal pains and constipation. The temperature of the patient seldom, if ever, goes beyond 102° F. There may occur long intervening periods in which it remains normal. Objective symptoms are usually absent. The duration of the chronic form is from three months to several years.

There is a sub-clinical form which is so mild and of such short duration that it usually passes undiagnosed. The patient may complain of headache, weakness, joint aching and loss of appetite. The temperature may reach an elevation of 103° F. The duration is from three to seven days.

The malignant form of the disease has been observed in a few instances. This form is characterized by extreme prostration, severe pains in the muscles and head, and delirium. This form is not unlike the symptoms which characterize meningoenzephalitis.

#### DIAGNOSIS

Individuals suffering from chronic unexplainable diseases characterized by no or a very low temperature, or a high temperature in the afternoon, should be examined for undulant fever."

From the standpoint of laboratory aids the following might be mentioned, in order of preference:

- a. Blood culture.
- b. Agglutination tests.
- c. Intradermal test.
- d. Opsonocytophagic activity.

Diagnosis is further complicated by the fact that positive blood cultures may not always be obtained that probably ten or fifteen per cent of the cases of brucellosis never develop agglutinins in significant titres, and that the interpretation of the intradermal or opsonocytophagic activity tests do not always (in my experience, at least) give clear cut definitions.

The blood picture in brucellosis may often give an aid in diagnosis. According to Munger and Huddleson<sup>2</sup> the blood picture of *Brucella melitensis* infections is characterized by a leucopenia, with a relative lymphocytosis and monocytosis.

In July, 1937, a patient was referred to me with a tentative diagnosis of typhoid, although no laboratory tests had been made. A blood specimen, submitted to the Arizona State Laboratory, did not agglutinate the antigens of typhoid, paratyphoid A, paratyphoid B, tularemia or *Proteus* O X 19, but did agglutinate *Brucella abortus* in a dilution of 1:200. This immediately suggested the possibility that some of the cases of "ditch fever" were not enteric infections, as commonly believed, but were

either clinical or subclinical cases of brucellosis. Within a short time several similar cases confirmed this suspicion.

#### SULFANILAMIDE IN TREATMENT

At that time, it occurred to me that sulfanilamide might be useful in the treatment of brucellosis. This was suggested by the satisfactory reports on its use in the treatment of streptococci, gonococci and other infections. It appeared that this agent was particularly effective against gram negative organisms (i.e., the *Gonococcus* and *colon bacillus*). Since the organisms of the genus *Brucella* (formerly classified in the genus *Alkaligenes*) are minute gram negative rods (often oval or coccoid in shape), there seemed to be some justification for the use of sulphanilamide. It should be mentioned, however, that subsequent studies by many investigators, have shown that the action of sulfanilamide is not restricted to gram negative organisms.

At the time that sulfanilamide therapy was introduced, there were, to my knowledge, no references in medical literature regarding its use in the treatment of brucellosis. Since the early part of 1938, several articles have appeared and references have been made to articles published in Europe as early as 1936.

#### CASE HISTORIES

CASE No. 1. H. R., Mexican male, 11 years. First seen July 9, 1937. Chief complaint: backache, headache, occasional chills, loss of appetite. Temperature 101; systolic pressure 90, diastolic 65; respiration 18. A tentative diagnosis of undulant fever was confirmed by a laboratory report on July 12 that the patient's serum agglutinated *Brucella abortus* in a dilution of 1:400. Sulfanilamide was given immediately; sixty grains in divided doses daily for the first three days, twenty grains thereafter until July 29, when treatment was discontinued. The patient was much improved on July 15; temperature was normal and backache and headache had disappeared. All symptoms were absent on July 29, and the patient since that time has continued to feel well.

CASE No. 2. M. R., Mexican girl, 8 years. First seen in consultation July 17, 1937. Chief complaint; temperature, inflammatory rheumatic condition involving knee, ankle, elbow, and wrist joints bilaterally. Two weeks earlier, without the aid of laboratory examinations, a tentative diagnosis of typhoid was made, and three ½ c.c. injections of typhoid-paratyphoid vaccine had been given. On July 20, the laboratory reported that the patient's serum agglutinated *Brucella abortus* in a dilution of 1:200. With the consent of the family physician, forty grains of sulfanilamide (divided doses) were given for five days, then twenty grains per day for fifteen days, when treatment was discontinued. For the first week, little change was noted, but by August 3, the temperature was normal, the rheumatic condition had disappeared, and when last seen, the patient felt well.

CASE No. 3. Mrs. F., white female, 28 years. First seen August 1, 1937. Illness dated back to a spontaneous abortion, eighteen months earlier, and a slight afternoon temperature for about three months. Following this, her health gradually improved, and the temperature disappeared. In February, 1937, she became pregnant. The pregnancy terminated in May with a spontaneous abortion. The afternoon temperature reappeared, night sweats, headache and backache were common,

there was loss of weight and a complete loss of appetite. Previously, a chest x-ray and serological tests for syphilis, typhoid, paratyphoid, and brucellosis had been negative. The patient was extremely nervous, had been confined to bed for two months, and had lost about twenty-five pounds. August 13, the laboratory reported that her serum agglutinated *Brucella abortus* antigen in a dilution of 1:100. Sulfanilamide was given—sixty grains, in divided doses, for the first four days, commencing August 17, then forty grains daily for the next two weeks. On the fifth day, temperature was normal and has remained so since that time. August 25, the serum did not agglutinate *Brucella abortus* and has not since. No other treatment was given, other than reduced iron t.i.d. By December 17, 1937, she had gained twenty pounds and has continued to feel well. Since that time she became pregnant and this pregnancy terminated with a normal delivery.

CASE No. 4. D. G., Mexican male, 34 years. First seen July 14, 1937. Had been well until July 1, when general aching and fever developed. A tentative diagnosis of tuberculosis had been made by another physician. The patient was able to be up, but did not feel well, and the daily temperature continued. He had no cough or pain in his chest. He attempted to follow his occupation (farmer) but had an acute exacerbation of symptoms. He had frequent chills, afternoon temperatures and drenching sweats. His temperature was 100.5. A tentative diagnosis of brucellosis was made, which was confirmed by a laboratory report on July 17, stating that his serum agglutinated *Brucella abortus* in a dilution of 1:400. He was given sulfanilamide (sixty grains for the first three days and forty grains daily thereafter). Treatment was discontinued on July 29, when the patient reported at my office and stated that he had been free of symptoms for a week. He was feeling well when last seen.

CASE No. 5. S. L. O., white male. Became suddenly ill in April, 1937, with what was diagnosed by another physician as influenza. Chief complaints were: chills, high temperature, and backache. After two weeks in bed he returned to work, but an afternoon temperature of 100-101 continued. Night sweats did not occur. Since his condition did not improve, he entered a hospital at Tucson on June 5, where a diagnosis of undulant fever was eventually made. His serum agglutinated *Brucella abortus* in a dilution of 1:400. He remained in the hospital for ten days following the diagnosis, during which time he received two subcutaneous injections of Brucellin.

The patient was first seen after his return from the hospital. His temperature was 99.5, and his only symptom was generalized back pain. He was given sixty grains of sulfanilamide for three days in divided doses. His temperature had been no higher than 100, but following his administration of the sulfanilamide, the temperature rose to 104 on the first day. The patient wished to discontinue the treatment, but was persuaded to continue for two more days. The temperature was 102 on the second day and 104 on the third. He then refused further treatment and was not seen for a month, when he returned to my office. He stated that for approximately two weeks following the discontinuance of treatment, he had been free from back pain and his temperature was normal. The symptoms had reappeared a week before his visit, and he wished to resume treatment. Sulfanilamide was administered (sixty grains for the first three days, and forty grains daily for fifteen days). An elevation of temperature was again noted during the first six days, the highest temperature noted was 104 on the third day. On the seventh day the

temperature was 99.5 at 7:00 P.M., but was normal on the eighth day, and has remained normal since. The back pain rapidly disappeared after the temperature became normal. The patient is well.

#### CONFIRMATORY EXPERIENCES

In addition to the five cases described above, I have employed sulfanilamide in the treatment of six other cases, which I feel were brucella infections, but the diagnosis could not be confirmed by laboratory findings. All cases responded well to sulfanilamide, and all patients have remained well.

From this experience, which has been substantially confirmed by numerous reports in medical literature, it is my opinion that sulfanilamide is a valuable drug in the treatment of brucellosis. In general, there is usually an abrupt termination of fever, and a relatively rapid recovery. This has been confirmed by Blumgart<sup>2</sup>, who cites similar observations by European authors.

The only reports which I have noted in the literature when sulfanilamide has not given satisfactory results in the treatment of brucellosis is in the account given by Bynum, who reported that six cases of undulant fever (two acute, one subacute, three chronic) failed to respond to sulfanilamide treatment. Bynum employed maximum doses as recommended by American and British physicians. Bynum's inability to duplicate the satisfactory results obtained by other investigators might be explained in the light of the studies of Chinn<sup>5</sup> who found that in guinea pigs, infections due to *Brucella abortus* or *Brucella suis* responded more readily to sulfanilamide therapy than did cases of infections of *Brucella melitensis*. Bynum's cases all gave histories of contact with cattle, or histories of consuming raw milk, and presumably are due to *Brucella melitensis*. It would have been interesting, however, had Bynum carried out agglutinin absorption tests to determine whether his cases were infections of *Brucella abortus*, *Brucella suis*, or *Brucella melitensis*.

#### MODE OF ACTION OF SULFANILAMIDE

Space will not permit any detailed discussion of the action of sulfanilamide. As Traut and Logan<sup>6</sup> have pointed out, "a drug may assist a patient in his battle against invading bacteria:

1. by making the patient's tissues an unsuitable culture medium, bacteriostasis;
2. by killing the bacteria, a bactericidal or bacteriolytic effect;
3. by increasing the number of leucocytes, and hence presumably the number of phagocytes;
4. by increasing the effectiveness of existing phagocytes, enabling them to engulf and inactivate or kill a larger number of bacteria by increasing the opsonins in the patient's serum;
5. by inactivating the toxin produced by bacteria, an anti-toxic effect;
6. by making the tissues of the patient less sensitive or less susceptible to injury by toxin;
7. by causing the organism to assume less virulent forms, dissociation."

In regard to the action of sulfanilamide in brucellosis, the investigations of Welch, Wentworth and Mickle<sup>7</sup> indicate that the drug probably acts



"by increasing the production of specific opsonins, thus affecting neutralization of the endotoxic or aggressin-like substances produced by these organisms with resulting phagocytosis." Animal experiments showed that sulfanilamide markedly increases opsonocytophagic activity for *Brucella* organisms.

The studies of Chinn<sup>5</sup> have shown that sulfanilamide has a bactericidal and bacteriostatic effect upon the *Brucella melitensis*, abortus and suis, in Vitro. Furthermore, when guinea pigs were inoculated with these organisms, and treatment commenced immediately, sulfanilamide gave 100% protection.

Menefee and Poston<sup>8</sup> have found that guinea pigs, when infected with *Brucella*, and treated with sulfanilamide, usually show increased opsonocytophagic power and a decrease in agglutinins. They feel that the bacteriostatic action of the drug permits the normal defense mechanisms to cope with invading bacteria. It appears, however, that the final explanation of the action of sulfanilamide in Brucellosis must await further research.

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#### DISCUSSION

DR. KOBER: Are there any questions or discussion on this subject of undulant fever?

DR. WARREN: I would like to ask in this case cited, if this rise in temperature to 104, and so on, that lasted for a day or two, was an indication of an idiosyncrasy, or just what idea the doctor has with this regard to this rise in temperature.

DR. FRISSELL: Dr. Condell is to be commended for this work in the treatment of undulant fever.

We are all seeing cases of this disease in this

part of the country which in a great many instances, are not being properly diagnosed. Only 30-35 cases per year have been reported in Arizona during the past ten years. Diagnosis is difficult, due to the protean symptomatology and the limitation of diagnostic procedures. The agglutination reactions cannot be depended upon in a great many instances, and especially in the age group above 45 years and in cases of chronic infection. There is extreme variation in agglutination reports from the same laboratory on patients without any treatment or apparent change in clinical picture. Furthermore, reports from different laboratories vary widely. In one instance, blood from a patient was reported by Laboratory A as showing titre 1:1280, by Laboratory B as showing 1:800 and Laboratory C as showing no agglutination. If we depend on this test alone, a great many cases will be missed.

The "opsonic index" has recently been applied to diagnosis of undulant fever. This is an old test and not specific, but may be of some value. I have not been impressed by its correlation with other diagnostic data.

The intradermal test, using a filtrate, or nucleoprotein fraction of the organism concerned, I believe to be of more value than any other one test which we use in diagnosis of this disease. This test gives a higher percentage of positive reactions and is an indication of infection past or present.

There are a great many different methods of treatment of undulant fever. With the exception of a recently developed polyvalent serum, nothing has approached a specific measure so much as the use of sulfanilamide. Those of us who have used this drug in the treatment of undulant fever have for the most part had results comparable to those of Dr. Condell. There are a few things that have to be remembered in the use of sulfanilamide in the treatment of this or any other disease. This is a potent drug and not without toxic effects in some cases. The dosage must be large and maintained for several days, as Dr. Condell has pointed out, in order to be effective. Patients should, therefore, be kept in bed and under close observation during course of treatment and medication stopped promptly on development of signs of idiosyncrasy or unfavorable reaction in blood picture. Other medications should be kept at a minimum during the administration of sulfanilamide.

In a limited experience, I have found sulfanilamide effective in treatment of acute undulant fever but of questionable value in chronic cases, and one is convinced that it offers an effective form of treatment for this disease.

DR. KOBER: Any further discussion? Does Dr. Condell have anything to say?

DR. CONDELL: With regard to the question, Doctor. We felt that we did have an idiosyncrasy. We checked the patient every day. We continued right on with the treatment in this particular case and checked the patient every day.

## Traumatic Rupture of the Bladder

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**R**UPTURE of the bladder is considered a comparatively rare condition. However in the last few years due to the ever increasing number of automobile accidents it is now being encountered more often.

Ninety per cent of all bladder ruptures occur in

From the Urological Service of the El Paso City-County Hospital. Presented at the Hospital Staff Meeting, Feb. 15, 1939.

males. Usually alcoholism is a contributory factor. All of the cases which are to be described were males and four had been drinking previous to the accident. When a person is intoxicated his bladder fills quickly and often he forgets to empty it being more or less insensitive to the desire for micturition. Further he is prone to fall; get in a fight; wreck his car etc. receiving possible trauma

to the low abdomen which may cause the distended bladder to rupture.

And it may be ruptured by comparatively insignificant trauma, as shown by two instances observed during internship:

(A) A college youth who had been drinking was seated in a crowded automobile. His bladder was distended. Suddenly the car lurched and one of the occupants leaned against his abdomen with his elbow. An intra-peritoneal rupture of the bladder was incurred. Medical attention was not promptly sought and the patient died of peritonitis which was well advanced when operation was performed.

(B) An intoxicated young man in getting out of his car slipped and fell slightly, striking his abdomen on the fender. He paid little attention to this seemingly trivial mishap, but a few hours later he entered the hospital, where prompt exploration revealed an intra-peritoneal rupture of the bladder, which was repaired. The recovery was complete.

Rupture of the bladder may be intra-peritoneal or extra-peritoneal. About two-thirds of such vesical injuries are intra-peritoneal and bloody urine is found within the peritoneal cavity. Fractures of the pelvic bones often accompany vesical ruptures. In all cases of fracture of the pelvis, injury to the bladder should be suspected for the trauma, when received, often is of such severity as to fracture the bones of the pelvis and injure the bladder, as well.

#### SYMPTOMS

A typical case of rupture of the bladder is in shock when brought to the hospital. He may be comatose or moribund and death may ensue in a very short while.

Should the rupture be intra-peritoneal the usual symptoms of hemorrhage will be present such as cardiovascular depression; weak fast pulse; ashen fascies, etc. The low abdomen will disclose rigidity; tenderness and pain, with a constant desire to urinate but without being able to pass any urine except possibly a very small amount of very bloody urine. Nausea and vomiting may be present along with the early sign of peritonitis.

With the extra-peritoneal type of rupture, the clinical picture is essentially the same except that the signs of peritoneal irritation are less or absent, with the appearance of a bulging tender mass in the low abdomen due to urinary extravasation.

#### DIAGNOSIS

Even though the clinical picture suggests rupture of the bladder, an accurate pre-operative diagnosis is not easy. Probably the surest sign of rupture of the bladder is the continual passage of bloody urine through the catheter. The amount of bloody urine obtained by catheter may be confusing. Usually only a small amount will be obtained but not infrequently a surprising quantity will be observed. Some authorities recommend the injection of aid through the urethral catheter and then making an x-ray. The presence of air in the peritoneal cavity beneath the diaphragm suggests bladder rupture. Others suggest the injection of opaque media through the urethral catheter followed by an x-ray. Finding the opaque media extravasated through the peritoneal cavity indicates that the bladder has been ruptured. A simple test applicable in certain instances, is the injection through the urethral catheter of a measured amount of sterile solution, and then observing if that amount can be recovered. Cystoscopy, too, may be employed. Yet it

must be considered that one is usually dealing with a desperately ill patient and too much manipulation is not advisable. The patient should be disturbed as little as possible in arriving at the diagnosis, and if possible nothing should be done which might further the processes of peritonitis or extravasation.

A positive early diagnosis is not always possible but naturally it is of the utmost importance to make the diagnosis as soon as possible for the successful outcome of the case depends largely upon the promptness of surgical intervention. Often the absolute diagnosis can be made only by exploration.

#### TREATMENT

The treatment of rupture of the bladder is surgical and this should be done as quickly as possible. During the interval preceding exploration, intravenous glucose and saline, or transfusion may be beneficial.

With the diagnosis of the rupture of the bladder having been made, or strongly suspected, exploration should be done without delay. It is preferable to operate such a case and not find the bladder ruptured rather than delay too long until peritonitis or extravasation is well developed, with marked increase in mortality invited by such procrastination.

A midline incision is employed and the peritoneum opened. The peritoneal cavity is quickly aspirated of blood and urine. A search is made for any possible injury to the intra-abdominal viscera, and the rent in the bladder located. This is usually found on the postero-superior aspect of the bladder in the intra-peritoneal type of rupture. The rent is repaired by enfolding sutures over which the peritoneal layer is carefully closed. Drains are inserted in the peritoneal cavity and the peritoneum is closed.

The bladder is now opened extra-peritoneally and a large Pezzer catheter inserted into the bladder for continuous, supra-pubic drainage. This is the most important step in the operation, the maintenance of free bladder drainage.

Should the rupture be extra-peritoneal, free bladder drainage is given as described. The rent is repaired and peri-vesical extravasation adequately drained.

#### PROGNOSIS

In general, the prognosis of rupture of the bladder is grave. This condition carries a high mortality. About 80% of both types die, operated and unoperated. The mortality is higher with the intra-peritoneal involvement than with the extra-peritoneal. Following operation the mortality of the intra-peritoneal group is approximately 70% and the extra-peritoneal group about 40%. Surgical intervention promptly instituted within twelve hours after the accident materially reduces the mortality of such cases.

An exact knowledge as to the mortality is impossible for so often injuries to other structures accompany rupture of the bladder which by themselves are most serious and contribute large-



ly to an unfavorable termination of the case, such as associated injuries to intra-abdominal viscera, the increased shock of pelvic fractures, etc.

### CASE REPORTS

#### CASE No. 1—

Mexican, male, age 25.

This man was standing behind his automobile which had stalled on the highway, when he was hit by another car coming from behind, crushing him between the two cars.

He was moribund when brought to the hospital. He had symptoms indicative of a ruptured bladder and upon catheterization, bloody urine was obtained.

From his numerous injuries—ruptured intra-peritoneal organs; crushed chest; crushed pelvis and various fractures, he was in such an extreme degree of shock that supportive and stimulating endeavors were all that could be done for him. He died 30 minutes after reaching the hospital. The autopsy showed that he had an intra-peritoneal rupture of the bladder together with the other numerous injuries.

#### CASE No. 2—

Mexican, male, age 47.

This man was admitted to the hospital with the signs and symptoms of advanced peritonitis. The abdomen was board-like and very tender. He complained of pain over the entire abdomen, particularly in the lower portion. He was semi-comatose.

There was no history obtainable in this case as there were no friends or relatives in attendance, and he was unable to converse intelligently.

Urethral catheterization revealed a small amount of bloody urine.

Rupture of the bladder was suspected in this case but no history of injury could be obtained. Intra-peritoneal pathology was considered also. Consultation was had with the general surgical service. However, the patient promptly expired before anything could be done. The autopsy revealed an intra-peritoneal rupture of the bladder with resulting peritonitis.

Later it was learned that this patient had been intoxicated five days previous to his admission to the hospital and had been engaged in a bar room brawl during which he was kicked in the abdomen.

#### CASE No. 3—

Mexican, male, age 21.

This patient was driving a car while intoxicated and had a collision with another car, striking the lower abdomen severely against the steering wheel. He was brought to the hospital immediately and was complaining of severe pain in the lower abdomen and a constant desire to urinate. There was appreciable tenderness and rigidity of the abdominal muscles; the pulse was fast and full, and urethral catheterization revealed a small amount of bloody urine.

An x-ray disclosed fractures of the pelvis, without marked displacement.

A retention catheter was inserted and he was kept under close observation for a few hours during which time the drainage through the catheter continued to be very bloody and there was an increase in the pulse rate with slight increase in abdominal rigidity.

The diagnosis of rupture of the bladder was made and immediate operation was decided upon.

### OPERATION:

Under spinal anesthesia a midline incision was made and upon opening the peritoneum an enormous amount of bloody urine was aspirated from the peritoneal cavity. Inspection of the intra-peritoneal organs failed to reveal any injury. A large intra-peritoneal rupture of the bladder was found in the supero-posterior area about three

inches long. This rent was sutured with enfolding suture layers and carefully peritonealized. Penrose drains were inserted into the peritoneal cavity for drainage. The bladder was then opened extra-peritoneally and a large Pezzer catheter inserted for continuous supra-pubic drainage.

The convalescence from this operation was prompt and uneventful. The Penrose drains were removed in a week's time and the supra-pubic Pezzer catheter was removed in two weeks. Following this, he began to urinate and the supra-pubic sinus quickly closed.

A cast was applied by the orthopedic service for the immobilization of the fractured pelvis. He left the hospital one month after the accident, in excellent condition.

#### CASE No. 4—

White, male, age 20.

This young man fell under a heavy truck and the rear wheels passed over his body in the region of the hips. He was brought to the hospital in extreme shock. His pulse was fast and weak. His face was ashen and he was perspiring freely. He complained of pain in the low mid-abdomen, with an intense desire to urinate, which he was unable to do, however.

An x-ray was made in bed which revealed fractures of the pelvis. Catheterization obtained bloody urine.

It was felt that this patient presumably had a ruptured bladder and operation was considered. However, due to his very poor condition it was decided to endeavor to improve his markedly shocked state and keep him under close observation. Later, his condition was somewhat improved, due to transfusions, stimulations and application of external heat, etc.

The next morning, however, he seemed still better, and there was less blood in the urinary drainage from the retention catheter which had been inserted. The abdomen was less tender and softer. However, it still appeared that surgery would most certainly result in a mortality, and since the general condition seemed better and the hematuria had lessened greatly, it was decided to watch him a little longer. The following day the urine was clear and it remained so from then on.

His general condition began to improve steadily, also, and soon he was lying comfortably in bed, his only complaint being referable to the fractured pelvis which was immobilized by the orthopedic department as soon as his condition warranted. The retention catheter was left in place for two weeks, and the urine was quite clear all the while after the first two days following admission. His bladder functioned normally after the removal of the catheter, and his recovery was most satisfactory. It is presumed that this patient probably sustained a small rupture of the bladder which was cured by the retention catheter keeping the bladder empty and allowing the rent to heal. There were no indications of renal injury and the easy passage of the catheter was evidence against rupture of the urethra. There was no bleeding from the penis. There was present profuse hematuria and definite indications of peritoneal irritation with severe pain in the bladder area and an intense, constant desire to urinate. He was too profoundly shocked for surgical exploration and upon rallying from the shock the hematuria disappeared.

Mills Bldg.

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## Metabolism in Pregnancy

H. C. JAMES, M. D.

Tucson, Arizona

THE basal metabolic rate during pregnancy is not thoroughly understood. There is a decided diversity of opinion throughout the literature and many confusing and conflicting statistics have been presented. By far the majority of writers make the bold statement that metabolic rates are always increased during normal pregnancies. The reason for this apparent increase in thyroid activity has been attributed to several different factors, such as (1) the increased protoplasmic mass of pregnancy; (2) the simple hypertrophy and hyperplasia of the thyroid; (3) increase in activity of the anterior pituitary gland which indirectly causes increased activity of the thyroid gland. Cornell<sup>1</sup> and others have shown that there is an elevation of the basal metabolic rate during pregnancy. Hanna<sup>2</sup>, reporting a small series of cases on whom basal metabolic rates had been taken at the fifth and ninth lunar months, showed an increase in basal metabolic rate at the fifth month usually, however, within plus to minus 10, and a further increase at the ninth lunar month. Root and Root<sup>3</sup>, Plass and Yoakam<sup>4</sup>, Williams<sup>5</sup>, and De Lee<sup>6</sup> also state that there is an increase in basal metabolic rate during pregnancy. On the other hand, Pommerenke, Haney, and Meek<sup>7</sup> by experimental work, computing body surface areas of mother and baby rabbits and total heat production before and after delivery, conclude that there is no actual increase in maternal basal metabolism. Eskridge and Serwer<sup>8</sup> have reported 1000 basal metabolic rate determinations on private patients and found the greatest percentage to fall within the normal limits of plus to minus 10 in all three trimesters. Hughes<sup>9</sup>, reporting 1250 basal metabolic rate determinations during pregnancy found that there was a depression in the last half of the, first trimester to an average of minus 11. During the second trimester the basal metabolic rate rose, reaching a plus quantity, and in the third trimester there was a further rise.

### METABOLIC RATE

I should like to add to this confusion and conflict my own findings, and suggest a possible factor which may alter previously reported statistics. Patients coming to me for their first visit almost invariably complained of ease of fatigue, sleepiness, and "lack of pep." These complaints were particularly common in patients first seen during the first trimester of pregnancy. These symptoms did not fit the textbook picture. My patients did not have that feeling of well being and exuberance so beautifully described by both Williams<sup>5</sup> and De Lee<sup>6</sup> in their textbooks. For this reason I have made basal metabolic rate determinations a routine prenatal procedure for the past two years. The basal metabolic rate is taken, when possible, within

a week after the first office visit, regardless of the stage of the pregnancy and influenced only by nausea and vomiting. When a patient is suffering excessively from morning sickness the test is postponed until the nausea and vomiting are controlled. Preparation for the test consists of eating a light meal the night before the determination is to be made, going to bed by 10 p. m., and from then until after the test, taking nothing by mouth. The patient is instructed to participate in no activity other than dressing on arising, and to ride to the office where preceding the test she will have an hour of complete relaxation in bed in a room set aside for that purpose. A Sanborn machine, which is checked for leaks twice weekly, is used. (Any similar apparatus may be used.) The patient breathes oxygen for eight consecutive minutes. Determinations are made in the usual manner from these graphs. Immediately following the test, a red blood cell count and hemoglobin determination are taken. This also has been a routine practice for the past two years. (All determinations have been made by the same laboratory technician.)

This paper covers a review of 200 cases picked alphabetically from my files. No attempt was made to eliminate any case because of obvious abnormality.

Early in the series it became quite apparent to me that instead of receiving reports of basal metabolic rates on the plus side of zero, by far the greatest percentage were on the minus side and of these the majority were below minus ten. This did not coincide at all with my preconceived idea of what basal metabolic readings should be during pregnancy. The laboratory technician was questioned concerning the condition of the apparatus and the methods employed, but no errors could be found. The question of iodine content in the soil and water in the locality was brought up and found not to be beyond normal for other parts of the country. It was the consensus of opinion of several men in other fields of medicine that there is a tendency to lower metabolic rates in non-pregnant patients in Tucson, although no definite figures could be obtained.

The low metabolic readings have caused me in the past to be rather free with the use of thyroid medication. The results from administering thyroid gland extracts have been discouraging. Those patients with metabolic rates between minus 10 to minus 13 have not as a rule been benefited by the use of thyroid medication. Naturally there are those patients with a true hypothyroidism who did respond to medication.

My figures showed, after reviewing 200 cases and plotting the curve, that by far the greatest percentage of metabolic rates were on the minus side of zero, that the peak of the curve came at minus



12 for those taken during the first trimester, minus 10 during the second trimester, and zero during the third trimester. Obviously, since this is not a selected series, there are cases representing both true hyper- and hypo-thyroidism. These have no particular interest, however, so far as this series is concerned.

The idea of correlating the basal metabolic rates with the red blood cell count and hemoglobin determinations was suggested to see whether the apparent peculiarity of metabolism in Tucson could be explained. The records were accordingly reviewed and a chart made which showed the red blood cell count the hemoglobin determination, and the basal metabolic rate of each patient.

#### BLOOD COUNT IN PREGNANCY

In reviewing the literature in relation to the blood picture of pregnancy, many varying statistics were again encountered. Obert and Plass have presented a paper in which they attempt to prove by very complete laboratory studies that the slight anemia of normal pregnancy recognized by clinical methods is only apparent, and can be explained by physiologic dilution of the blood, associated with an increased blood volume and by the further dilution of finger prick blood with the fluid from edematous subcutaneous tissues. In 1926 Kuhnel first plotted the consistent variation in the red blood cells and hemoglobin during gestation. His curve shows a progressive fall in the quantity of red cells and hemoglobin from the first weeks of pregnancy to a minimum in the sixth to eighth lunar months and a gradual rise in the next two months. This compares favorably with Diechman's blood volume increase of 16% at the 30th week and merely shows that the decrease in red blood cells and hemoglobin is compensated for by the increase in the blood volume. Adair et al have reported a curve similar to Kuhnel's but slightly lower in both red blood cell count and hemoglobin. In an effort to obtain a normal red blood cell count and hemoglobin determination for my base line, I have taken the mean of those reported in the literature (and those obtained by personal communication with Dr. Goldhamer at the Simpson Memorial Hospital in Ann Arbor.). For my normal red blood cell count in pregnancy I have used 3.77 and for the normal hemoglobin in pregnancy, 12.5 grams per cent.

It will be noted from the plotted curve of my cases that the majority of patients had red blood cell counts and hemoglobin contents well above the normals established above. The greatest number averaged 4.15 red blood cell count, and the maximum number of patients were found to have about 14.2 grams per cent hemoglobin during the first trimester. During the second trimester the red blood cell count maximum is 3.95 and hemoglobin, 13.1 grams per cent. The third trimester shows 4.0 red blood cell count and 14.3 grams per cent hemoglobin. Again, since this is an unselected group, there are cases of true anemias of various types. These cases, although included in the

graphs, are of no significance so far as this paper is concerned.

It has been recognized for a long time that an increase in red blood cells and hemoglobin above normal will have the effect of giving a lower basal metabolic rate reading than normal, due to the fact that the increased cells and hemoglobin supply those centers influencing metabolism more readily with oxygen, with less respiratory and cardiac effort; the opposite is true in anemias, or in cases where the red blood cells and hemoglobin are below normal. Equations have been worked out to make the corrections for both conditions. (Equations worked out by Dr. Ure and me.) The following equations were used to correct each metabolic reading according to the red blood cell count and hemoglobin determination:

For minus B.M.R. readings

$$X = \frac{46.0 \times \text{—B.M.R.}}{\text{Hb} \times \text{RBC}} \quad 46.0 = \text{normal RBC} \times \text{normal Hb} \quad (\text{of pregnancy})$$

For plus B.M.R. readings

$$X = \frac{+ \text{B.M.R.} \times \text{Hb} \times \text{RBC}}{46.0} \quad X = \text{corrected B.M.R.}$$

With the new figures obtained by these equations a new curve was plotted and the resultant curve shows a decided shift toward the normal, with the majority of all patients coming well within the plus to minus 10 of normal. The peak is at minus 4.

#### SUMMARY

To summarize I should like to call to your attention again the fact that the figures obtained from my series of cases show an uncorrected metabolic curve definitely on the minus side of normal. This curve does not correspond with those reported from any other part of the country. All other reports have come from centers located at an elevation above sea level, so low and climatic conditions such that they probably do not in any way influence the R.B.C. and Hb content of the patient's blood. My curves for both R.B.C. count and Hb content are above normal established at other medical centers. I have correlated the R.B.C. count, Hb determinations and B.M.R.'s for each patient and corrected by a new equation. Minus B.M.R. correction equation is:  $X = 46.0 \times \frac{\text{—B.M.R.}}{\text{Hb} \times \text{RBC}}$ . Plus

$$\text{B.M.R. correction is: } X = \frac{\text{B.M.R.} \times \text{Hb} \times \text{R.B.C.}}{46.0}$$

X in each case being the corrected B.M.R. The curve resulting from this correction shows that the majority of patients come within the plus to minus 10 limits of normal.

My series of cases shows that basal metabolic rates in Tucson, although apparently below normal, come within the range of normal when correlated and corrected by an equation involving the R.B.C. count and Hb content of the patient. This equation has been used on a comparative basis and not as a true correction for B.M.R.'s against normal individuals. I have used my statistics against normals in pregnancy.

In conclusion, may I suggest that if this method of correlation and correction were applied to existing reports on metabolisms there would be a

decided shift to the plus to minus 10 limits of normal.

130 So. Scott

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#### DISCUSSION

**DR. SMITH:** Dr. James' paper is now open for discussion.

**DR. BROWN:** Dr. James has made an interesting observation, namely, that in Tucson the metabolism readings seem to be lower than in other parts of the country. This confirms more casual observations that have been made in Phoenix. In making this observation, Dr. James has done the rest of us a kindness. He has shown that metabolism readings are not necessary and that we need not disturb our patients or ourselves with them. To himself he has done the disservice of leaving the explanation of this open to further study and he can profitably spend much time in investigating that problem further. Except in those areas in which definite iodine deficiency exists, rudimentary metabolism itself would probably be unnecessary in pregnancy. It is a very worthwhile observation, one that is interesting, and one that

should be studied in considerably more detail in the other aspects of metabolism.

**DR. CATES:** I would like to relate what has happened in our office. About two months ago we were using a Sanborn machine and we noticed that invariably patients were having a metabolism of —18 to —30. That was almost the rule. We had to get a new machine about two months ago. Now, I am not boosting any particular machine. It happens to be a Jones machine, but we have noticed that almost invariably they have been normal. That can mean but one thing. That even with the best technique and the best attention to detail, basal metabolism are inaccurate. In pregnant women there are so many other factors that make true metabolism impossible. In the first trimester they may be vomiting all day. If you take the test the next day, it must be abnormal. On the whole, I am forced to agree with Dr. Brown that even if you do take the basal metabolism you should take five or six of them, and then only interpret the results with credulity.

**DR. WILLARD SMITH:** For the morning sickness, I have been using iodized calcium. Does that have any effect on metabolism?

**DR. JAMES:** I would like to thank the doctors for their discussion, and I would also like to state that in the future instead of taking the metabolism readings using any type of machine that is in use, I recognize the inadequacy of the results obtained from that machine. I also recognize that the results obtained from this work have been rather negligible in their character. However, I hope to follow through and have something a little more tangible to offer.

## Gastroscopy—Indications and Diagnostic Value

JOSEPH BANK, M. D.

Phoenix, Arizona

**W**ITH the perfection of the flexible gastroscope, gastroscopy has given an impetus to the study of gastric disease. Gastroscopy is rapidly becoming a universally accepted procedure.

It is a procedure which can be easily carried out in the office. The technic is not difficult, but orientation of the living stomach requires considerable study. Familiarity with the normal appearance and the interpretation of endoscopic gastric pathology requires extensive experience. Gentleness and skill are as important as in the performance of other diagnostic procedures. The patient does not experience excessive discomfort and is not subjected to any risk. A competent assistant is of help by facilitating the examination for the examiner and changing the position of the patient's head to avoid discomfort. Gastroscopy in no way supplants other clinical methods of examining the stomach. It does not compete with roentgen ray but complements it.

#### INDICATIONS

1. Patients with negative roentgen studies in whom the suspicion of organic disease still exists because of the persistence of symptoms. In this group would be included gastritis, unexplained hematemesis, weight loss, vomiting, anemia, and chronic abdominal pain.

2. Inconclusive roentgen findings such as differentiation between benign and malignant lesions, questionable postoperative marginal or jejunal ulcer, and question of intra or extra gastric lesions.

3. Gastric ulcer.

4. Gastric carcinoma.

#### NEGATIVE OR INCONCLUSIVE ROENTGEN FINDINGS:

It is not an uncommon experience to see patients with chronic abdominal distress in whom roentgen studies prove negative. In such patients gastroscopy may prove of greatest value.

One of the most common causes of abdominal distress is chronic gastritis, a condition which cannot be accurately diagnosed without the gastroscope. The discovery of gastritis has been the greatest accomplishment of gastroscopy. Chronic gastritis is a common condition and is an important and often serious disease. The symptoms are varied and rarely pathognomonic. In some instances symptoms considered characteristic of ulcer may exist but no ulcer can be demonstrated. The gastric secretion is not uniform and may vary from achylia to hyperacidity. Other symptoms may include intolerance of food, vomiting, nausea, weight loss, and dizziness. The roentgenologist is seldom able to establish a diagnosis of gastritis. The most accurate way to establish a diagnosis is to employ gastroscopy.



The significance of lesser mucosal changes may well be doubted; but marked inflammatory changes with redness, swelling, erosions, ulcerations, or hemorrhages in friable mucosa can be seen easily. Such changes cause symptoms which are relieved when the gastritis subsides. Gastritis may be an important cause of hematemesis, melena, or occult blood in the stool. Bleeding in the gastro-intestinal tract is an indication for gastroscopy which may reveal ulcer or carcinoma, lesions which at times may be overlooked by roentgen examination. Similarly, gastroscopy may prove of value in unexplained weight loss, nausea, vomiting, or low grade fever.

**CASE I.** M. Y., a nurse, age 35, was seen September 20, 1938, complaining of burning sensation at the xiphoid, relieved by food and alkali. The pain frequently awakened the patient at night. The symptoms existed with remissions since 1918. Duodenal ulcer was suspected but roentgen studies were repeatedly negative. Ulcer therapy failed to produce relief. Gastric analysis disclosed an achlorhydria which in itself made the diagnosis of ulcer questionable. Gastroscopy revealed a chronic superficial gastritis and a moderate degree of hypertrophic gastritis. Treatment of the gastritis rendered the patient symptom free to date.

In postoperative stomachs roentgen findings may be inconclusive. Marginal or jejunal ulcers are frequently not well demonstrated by roentgen examination. Gastroscopy which gives a good view of the interior of the stomach and the stoma is a valuable diagnostic aid. An ulcer on the stoma can be well seen. In addition such an examination may help determine whether the persistence of symptoms is due to the old ulcer, new ulcer at or near the stoma, or postoperative gastritis.

A deformed duodenal bulb may only indicate an inactive ulcer and not explain existing symptoms which may be due to gastritis. The gastroscopy may also help in disclosing an additional unsuspected gastric ulcer.

#### GASTRIC ULCER

There are several reasons for the gastroscopic observation of gastric ulcer. Gastroscopic visualization is the most accurate method of following the healing of an ulcer. A large part of the deformity seen on the x-ray film is due to swelling of the mucosa around the ulcer and not to penetration. Diminution of this edema may cause a disappearance of the niche and give a false impression of healing. Healing of the ulcer is much slower than the disappearance of the niche by x-ray would indicate. Gastroscopy is therefore a valuable adjunct in the management of the ulcer and is an accurate guide to treatment. Endoscopic examination may thus show delayed healing and explain persistent or recurrent symptoms. The ulcer may not be visible at the same time by both gastroscopy and roentgen study. It is therefore necessary to follow the progress of an ulcer by both methods. It is also true that at times either method may miss an ulcer.

**CASE II.** M. G., female age 25, was seen February 2, 1937, complaining of being "always anemic", dizziness, weakness, fatigue, and low blood counts. Ulcer was suspected once because of the occur-

rence of a tarry stool, but repeated roentgen studies over a five-year period were negative. When first seen her hemoglobin was 55% and red blood cells 3,000,000. Gastro-intestinal roentgen examination was again negative. Gastroscopy revealed a small round ulcer on the posterior wall of the stomach. With this information the roentgenologist made a special search for the ulcer in the region indicated. With a small barium drink which was molded into the mucous membrane, the ulcer was demonstrated on one film in the supine position with the aid of pressure to displace the barium and leave only the rugal markings.

#### GASTRIC CARCINOMA

When carcinoma is suspected without demonstrable lesion by roentgen ray, a gastroscopic examination should be made. When carcinoma is known to exist it should be performed to confirm the diagnosis and to help determine the extent of mucosal involvement. Carcinomatous involvement of the mucosa alone is rarely if ever shown by roentgen examination. Balfour expressed the opinion that gastroscopy promises to be of great aid in the early diagnosis of gastric carcinoma leading to successful removal. Indeed, a number of reports are on record from gastroscopists in England and the United States of early gastroscopic diagnosis of gastric malignancy and successful removal. In some of the cases reported roentgen ray failed to show any pathology and in others benign ulcer was suspected. By using both roentgen ray and gastroscopy an accurate diagnosis should be made in almost every case.

The gastroscopic diagnosis of malignancy depends upon direct vision. In a large percentage of cases an accurate diagnosis is possible. The differential diagnosis between benign and malignant ulcer is made with greater accuracy by gastroscopy than by inspection of the gross specimen. The reason is that the circulating blood makes the gastroscopic picture superior to the examination of the resected specimen. There is a distinct difference in the appearance of a benign and malignant ulceration. The floor of a carcinomatous lesion is irregular and lumpy and the color is brown or dirty gray and may be covered with necrotic tissue. The wall of the lesion is thick, rising from the surrounding tissue and the demarcation from the surrounding tissue is quite sharp. In contradistinction the floor of a benign ulcer is smooth, covered with yellowish white exudate and the edges of the ulcer are sharp.

In addition to diagnosis, the gastroscopist may aid the surgeon in determining the mucosal extent of the involvement. In some instances lesions regarded as inoperable because of extension have been proven to be operable. A reverse situation may also be true and the patient is spared an unnecessary laparotomy.

**CASE III.** C. C., male age 51, complained of intermittent epigastric pain associated with vomiting and hemorrhages. A moderate anemia and anacidity were present. On June 22, 1937, a gastro-intestinal roentgen examination showed the stomach normal and without filling defect. On July 1, 1937, a gastroscopy showed three distinct ulcerations on the posterior wall near the lesser curvature in the upper third of the stomach. Be-

cause the lesion appeared suspiciously malignant the patient was reexamined two weeks later. This time the ulcerations appeared malignant and surgery advised. The patient refused operation and continued medical treatment. On April 14, 1938 another roentgen study of the stomach was done, which showed an ulcer high up on the lesser curvature in the upper third of the stomach. Operation which followed disclosed an inoperable carcinoma.

Gastroscopic examinations are being employed in systemic and constitutional diseases such as pernicious anemia, deficiency diseases, blood dyscrasias, and allergic states. Thus regeneration of atrophic gastritis in pernicious anemia following liver therapy has been observed. Early carcinoma has been discovered in routine examination of a patient with pernicious anemia. Gastric changes have been found in patients with lichen planus, chronic urticaria, and other skin conditions. Lymphosarcoma of the stomach has been recognized and followed by successful radiation therapy.

#### SUMMARY

Gastroscopy, like roentgen ray, has for its pur-

pose the making of an anatomic diagnosis. It is therefore a cooperative method. It is the most valuable method in the diagnosis of gastritis. It promises to become an important factor in the early diagnosis of gastric carcinoma. The indications for gastroscopy have been outlined and its comparative value discussed.

15 E. Monroe St.

#### DISCUSSION

DR. HOGELAND: Dr. Bank's paper is now open for discussion.

DR. LUTFY: I would like to ask Dr. Bank if the examination of the esophagus can be made with the gastroscope?

DR. HOGELAND: Are there any further questions? If not, will you close the discussion, Dr. Bank?

DR. BANK: The esophagus cannot be examined by the gastroscope, because with the flexible gastroscope you merely see the stomach through a system of lenses. To examine the esophagus the old esophagoscope must be used.

DR. HOGELAND: Thank you very much, Dr. Bank.

## Low Back Pain With Sciatic Radiation

ROBERT E. HASTINGS, M. D.

*Tucson, Arizona*

IN presenting a paper on this controversial subject, I realize that enough has already been written to thoroughly confuse the average practitioner, and that most of you have probably completely given up hope of trying to understand any of what has been said. My paper is not an original work, I simply wish to present for your consideration a way to handle these cases which I'm sure you'll find satisfactory.

Backache is an almost universal complaint, and one which is heard daily in the average general practitioner's office, but, like the weather, little is ever done about it. My experience with the problem is from three sources, first as a general practitioner, then that derived in a large orthopaedic clinic, and then from my practice as an orthopaedic surgeon. The basis for this paper is cases from the last two sources.

At the University Hospital in Ann Arbor, we reviewed at one time all the cases of backache seen in the Orthopaedic Division in one year, 1934-35, and found that something over 2,400 cases were seen. We then separated out the ones who complained of sciatic pain upon whom there were sufficient x-rays to warrant a study. We thus narrowed it down to 461 cases. Dr. Carl Badgley has already reported on this series.

In the course of this study, I became interested in backache, enough so that I realized that the methods we were then employing in treatment of so-called sciatica were inadequate. In the first place our x-rays themselves didn't tell us the whole story in these cases. Because we couldn't see the lesion producing the syndrome, we couldn't possibly

hope to relieve the pain these patients all had. Dr. Paul Williams, of Dallas, had already pointed out the real cause and effect, but we hadn't accepted his teachings. The real purpose of this paper is, then, to call attention to his work and to attempt to popularize his concepts of the problem. Most of what I shall say on the subject is derived from Dr. Williams' monographs, but in heated argument and conversations with him, I've learned more than he ever put into writing.

#### DIAGNOSTIC CONSIDERATIONS

First, let us take a lateral x-ray of the lumbosacral spine. The so-called normal lumbar curve can be seen. From above downward the intervertebral discs carry more weight. From above downward the intervertebral foramina become smaller, so that the lumbosacral is the smallest. Now it is also true that the nerve roots increase in size as we descend, so that the 5th is the largest and yet passes through the smallest intervertebral foramen. As you know, the 5th lumbar is the principal component of the sciatic nerve. The lumbosacral joint, because of its position and structure is most likely to be altered. The joint is the most freely moveable one in the lumbar spine. It also carries more weight. Then too, its oblique pitch means that any thrust in the longitudinal plane of the body produces a shearing force on the joint. By increasing the lumbar lordosis, we further narrow the intervertebral foramen. Then, if in addition, a degenerative process has narrowed the intervertebral space, a true impingement of the 5th lumbar nerve is almost certain to result. The intervertebral space may be narrowed by a rupture of the nucleus pulposus or, as more commonly occurs, by either gradual or sudden degeneration of



the disc. As this occurs an overriding or subluxation of the facets occurs, which in itself can and does produce backache. This may well lead to 5th nerve pressure, or the hypertrophic changes which follow at the facet joints, may involve the nerve root due to its contiguous position. If this narrowing is more marked on one side, we would expect the patient to complain of his sciatica on that side, and that is exactly what actually happens. It is usually possible to look at x-rays and predict which side the sciatica is on.

In the clinical examination of these patients, several rather constant things are noted both in the history and the examination itself. In the first place, males are affected more than females. There are, of course, more backaches in women due to their lordotic posture, no doubt, but men are more subject to trauma. A definite history of trauma is obtainable in about 25% of cases. The average age of onset of symptoms is 35 years and in our series of 461 cases the average duration of symptoms prior to their presenting themselves was 42 years varying from a few minutes to 40 years. Most patients with this syndrome complain of pain on weight bearing, relieved by recumbency, especially if they lie with the knees flexed. All motions are very guarded, and they usually stand with the weight on the well leg with the affected leg flexed and abducted. There is usually sacrospinalis muscle spasm. Lumbosacral motion is restricted in all directions, especially extension. Frequently the lumbar spine is held rigid in a straight position with a list toward the well side and a compensatory, or so-called sciatic scoliosis above. Straight leg raising is limited. Obers sign may be present. The Achilles reflex is altered in about 18% of cases, and demonstrable peroneal nerve sensory changes are found in 21% of our series. X-rays are then taken in the following manner, which is that recommended by Williams and Wigby. First, a lateral is taken centered at the lumbosacral. The lumbar spine must not be allowed to sag laterally. When this film is developed, the lumbosacral angle is measured. The patient is then turned onto his back and stereo films are taken with a lateral shift of the tube, the rays being directed upward at the measured angle. These films are found to give us a good view of the lumbosacral intervertebral space, and show us the facets of this joint with as little superimposed bone shadow as possible. Frequently hypertrophic changes may be seen at either the margins of the bodies or upon the facet margins, or both. These changes are taken to be secondary to the narrowing and facet overriding. In our series 65% showed definite lumbosacral narrowing. Hodges and Peck reported a group of 538 spine x-rays on patients with no history of sciatica, many of whom, however, did have backache else films would never have been taken. In their series they could demonstrate narrowing in only 12.8% of lumbosacral joints. This to me means that it is the narrowing which leads to the sciatica.

## TREATMENT

After a thorough examination of both the patient and the x-rays, the treatment program is outlined to him. I shall give briefly my usual procedure in such cases. First, a snug short lumbosacral body cast is made, with the patient standing, bent forward to straighten out the lordosis and bring the sacrum forward. Most patients require, in addition to this, about 7-10 days of complete bed rest. A hard bed is best, with the knees supported in flexion. A hospital bed is ideal. The cast is left on for two weeks, during which time exercises are given to develop the abdominal muscles and straighten the sacral angulation. Hip stretching exercises are also advised. All patients are cautioned never to do anything which will increase their lordosis. When car riding is allowed, they are advised to have the seat well forward so that the thighs are flexed and the spine straightened. Any lifting is to be done with the spine held straight and the legs are used to lift with as they are extended. After the cast is removed, most patients are fitted with a lumbosacral support, a satisfactory type being a Camp No. 30 Corset with Goldthwait reinforcement. Parenthetically the same program, omitting the use of the body cast, is advised when backache alone is the complaint. I feel that to decrease the lordosis is the principal key to relief.

Again I wish to claim no credit for originality. All that I've said here is a repetition of Dr. Paul Williams' work, and I wish him given full credit. For myself and my patients, I'm sold on it.

130 S. Scott St.

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## DISCUSSION

DR. KOBER: Dr. Hastings' paper is now open for discussion.

DR. LYTTON-SMITH: First, I want to say it is a pleasure to discuss such an excellent paper and on a subject we are all so interested in, and on the part of Dr. Palmer and the Industrial Commission it is very important. I have been using the method discussed here a great deal, that is, bending forward and placing them in a plaster. I found this method probably worked better than any other that I have tried. However, in most of these cases we had recurrence of pain and I don't see that there is any reason why we can't have recurrence of the condition after they go back to work. In my experience they seem to start all over again. I think that I have used most of the methods of treatments. As yet, as far as I am concerned and with my own experience I am not getting the results that I would like to, and I am wondering if perhaps we could correct this position, this angle, and if it would

not be better to fuse this spine after we get it corrected. If we are going to correct it, I feel that we should stabilize it after it is corrected, or otherwise it will recur.

DR. KOBER: Is there any further discussion of this question of low back pain and sciatic radiation?

DR. HASTINGS: I am glad that Dr. Lytton-Smith brought up this question. Wherever lifting is required, it is frequently necessary to form a

lumbosacral fusion, and in addition, to remove the offending lumbosacral facets at the time the fusion is done. If we fuse that spine in that position the facet is still there and can produce irritation of the nerve. If a lumbosacral fusion is contemplated, it should be on this basis: that a thoroughly conservative try is given the patient. If relief is obtained by first a plaster and then a support to strengthen the muscles, well and good. If relief is not obtained, then lumbosacral fusion with a facet

## Sulfanilamide: Its Use in Otolaryngology

M. P. SPEARMAN, M. D.

and

W. E. VANDEVERE, M. D.

*El Paso*

SULFANILAMIDE has been of special value to the otolaryngologist in the management of acute streptococcic infections of the sinuses, the pharynx, the larynx, the trachea, the eustachian tubes, the middle ear and the mastoid. In one case of streptococcic meningitis and in two cases of laryngotracheobronchitis the drug has been the means of saving the life of desperately ill patients.

Repeatedly we have seen the acutely inflamed throat respond quickly to adequate dosage of sulfanilamide when used in conjunction with regular methods of treatment. These cases show a scarlet edema of the pharynx, often complain of pain in the neck on turning the head, due to the swelling of deep cervical glands against the vertebral fascia, sometimes a gray pseudo-membrane over the tonsils and the soft palate. The illness may be aggravated by an annoying dryness of the throat. Subjectively these patients improve several days before the objective signs begin to disappear. Perhaps that is partly due to the analgesic effect of sulfanilamide, an action of the drug that varies considerably in different individuals.

Many cases of acute sinusitis have exhibited a gratifying improvement early in the course of the disease, when sulfanilamide was added to the regimen of treatment. Again it is noteworthy that subjective improvement precedes the objective. The pain and discomfort are relieved days before the discharge diminishes. As the case proceeds we have often noticed marked diminution in the turbescence of the turbinates.

A potential source of danger in otitis media is the tendency to place too much reliance on sulfanilamide alone. Again, the analgesic effect of the drug may lead to a false conclusion that the patient is recovering when quite the opposite may be true. Early myringotomy, repeated if necessary, must remain our basic weapon against complications in otitis media. True, many of our cases have recovered without untoward incident, when sulfanilamide has been used early and adequately. But it must be remembered that sulfanilamide should always be used as an adjunct to the treatment, and should not be depended on to carry the burden alone. The ear that drains a thin

sero-sanguinous fluid following tympanotomy seems to be the type that clears up most readily under sulfanilamide therapy.

Sulfanilamide seems to possess the faculty of masking the symptoms of mastoiditis. Several of our cases that have finally come to surgery have shown rather remarkable remissions of symptoms early in the course of the disease. Three such cases were discharged, only to return after varying lapses of time, with the mastoid so diseased that surgery had to be done. On removing the cortex at operation these cases exhibited a short flash of pus lying rather superficially. No more purulent exudate could be demonstrated throughout the area. There appeared islands of pink granulation tissue lying between partially necrosed bony spurs. Certain of the mastoid cells would show no macroscopic involvement at all. The whole process suggested a strong stand on the part of the tissues involved to resist the infection, a stand which just barely failed. Nevertheless it is noteworthy that treatment of otitis media using sulfanilamide as an adjunct has certainly reduced the number of cases of mastoiditis. Fewer cases are coming to surgery, either on our private or clinic services. When mastoiditis has become fully established as evidenced by such signs as the type of discharge, the blood count, the temperature curve, the sagging of the posterior wall of the external auditory canal and the x-ray evidence of bony changes, it should be stated that to temporize with sulfanilamide or anything else is dangerous. Thorough surgical eradication of the focus of infection must be done in such event.

Dependence on sulfanilamide alone in the case of streptococcic meningitis following mastoidectomy is apt to be a fatal mistake. Here the focus of original infection, i. e., the mastoid, must be re-explored and carefully cleaned with the curette. This principle was vividly demonstrated to us in a case of ours which showed but indifferent response to sulfanilamide therapy by itself. On re-opening the original operative site, thorough curetting was done and the rate of recovery accelerated most remarkably.

Since our adoption of sulfanilamide in the treatment of acute laryngotracheobronchitis we have felt that a strong support has been given us in



managing this extremely dangerous condition. Before the drug was available our mortality experience in this disease was extremely high, in agreement with others throughout the country. Despite frequent bronchoscopic removal of the characteristic thick gummy plugs of exudate from the bronchi these patients, nearly always children under seven years of age, slowly choked to death as diminution of the breathing spaces progressed. With the use of sulfanilamide the exudate in the bronchi seems to be of liquid character, and tends to be readily expelled via the cough reflex. It is noted that the febrile reaction in these cases does not reach the alarming heights it did before the use of sulfanilamide. So that in the treatment of acute laryngotracheobronchitis we feel that sulfanilamide has been a life saver on several occasions.

Any potent drug necessarily carries an inherent warning of caution in its use. Many types of untoward reactions have followed the administration of sulfanilamide. These have been noted in the large volume of discussions now appearing in the literature. In our experience we have noted one or two cases of transient mental aberration, several cases of skin rash, numerous complaints of slight dizziness, two cases of mild cyanosis. These reactions have all disappeared promptly on cessation of the drug's administration. In no event have we had occasion for alarm over these signs of toxicity. Two cases of acute yellow atrophy of the liver have recently been reported from California. So that now the blood count, the urine, the eyegrounds, the skin, the temperature, the mental reactions, the degree of cyanosis and the appearance of jaundice must be observed and studied during the administration of the drug.

Excellent reports on the use of sulfanilamide in trachoma are now appearing in the current literature<sup>1,2</sup>. Seemingly there are some promising investigations under way. To date our personal experience has been limited to three cases, none of which have been under scrutiny for sufficient

length of time to enable us to draw conclusions therefrom.

#### DOSAGE

Dosage must be controlled by such factors as the type and virulence of the disease under treatment, the age, weight and physical condition of the patient, the presence or absence of various complications which might modify the indications for the use of the drug and the point in the clinical course of the disease at which therapy with sulfanilamide is begun. So that a rule of thumb for adequate dosage cannot be established. There is needed a sufficiently high and constant blood-stream concentration of sulfanilamide to get the patient well. To some that means so many milligrams of the drug per 100 c.c. of blood. Practically the dosage is gauged by the patient's reactions and the response of the disease clinically. We habitually follow this practice.

#### SUMMARY

In summary it may be stated that sulfanilamide has proven to be a valuable aid to the otolaryngologist. We stress the use of the term "aid" or "adjunct", because it has been our experience that when utter reliance is blindly placed in any one therapeutic measure there is sure to be grief. Caution should be used in interpretation of the signs of clinical improvement when sulfanilamide is being administered, because, through its analgesic action, often of marked degree, valuable signs may be masked and a sense of false security may dull the otherwise keen observation of the clinician. In certain diseases sulfanilamide has shown itself to be the most potent weapon at our command. The necessity for combatting disease with a multitude of methods has not been lessened by the advent of sulfanilamide but in our work we have felt definitely strengthened by the gift of this new weapon.

First National Bank Bldg.

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## Hyperinsulinism Associated with Hypothyroidism

RALPH W. MENDELSON M. D.

*Albuquerque, N. M.*

A considerable amount of work has been done that indicates an antagonistic action between the thyroid and the pancreatic islet secretions. Carmichael<sup>1</sup> reports two cases in which the patients were suffering from hyperinsulinism manifestations in both of which there was a low basal metabolic rate. These two cases responded favorably to the administration of desiccated thyroid. Marine<sup>2</sup> reports Falta as stating that thyroidectomized dogs are less sensitive to the hyperglycemic action of epinephrine than normal animals. Ernst and Kaufman<sup>3</sup> report a series of experiments on patients suffering from hyperthyroidism, the results of which demonstrated that they were consider-

ably less sensitive to the effects of insulin than normal individuals.

It is not an uncommon observation on patients suffering from both diabetes and hyperthyroidism to note a marked improvement in the diabetic condition following thyroidectomy. The following case report is one of hyperinsulinism associated with hypothyroidism.

#### CASE REPORT

The patient is a white male, student, age 18. His father has an arrested case of pulmonary tuberculosis and his mother suffers from hypertension. His habits are all normal for his age, and his past history is irrelevant. When I first saw him he was

just recovering from an unusual nervous spell that had manifested itself in great mental excitement, confusion and anxiety followed by profuse perspiration, muscle twitchings and a sensation of complete exhaustion. He had never had such an attack before. His immediate condition suggested hyperinsulinism and for a therapeutic test he was given a glass of orange juice with two lumps of sugar. In a very short time he felt considerably improved and the following day submitted himself to a complete examination. His height was 58½ inches and he weighed 135 pounds. The urine, stool, Wassermann tests were all negative. Complete examination of the chest, including fluroscopic examination, revealed no pulmonary or cardiac pathology. All reflexes normal. Blood pressure, temperature and pulse rate all within normal boundaries. The basal metabolic rate was -19 and the fasting blood sugar 40.

Over a period of several months the following observations were made and at the present time the patient is enjoying good health and is normally active, not having suffered any more at-

tacks of hyperinsulinism. Appropriate thyroid medication was instituted and the table reveals the results obtained.

Before thyroid

medication .....	BMR	Minus 19	FBS 40
Thyroid medication .....	BMR	Minus 17	FBS 55
Thyroid medication .....	BMR	Minus 6	FBS 72
Thyroid medication .....	BMR	Plus 20	FBS 90

#### COMMENT

In a review of the available literature I have been able to find only four published cases of this interesting condition. No doubt many cases of hyperinsulinism if carefully worked out, would also reveal a degree of hypothyroidism. These published cases are a plea for more detailed examinations in cases of hyperinsulinism, with special reference to thyroid activity.

221 W. Central Ave.

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2. Marine, D.: Physiology and Principal Interrelations of the Thyroid. *Jr. Am. Med. Assoc.*, 1935, civ, 2250-2255.
3. Ernst, Z., and Kaufman, K.: Wechselbeziehungen Zwischen Schilddruse und Bauchspeicheldruse, *Ztschr. f. d. ges. exp. Med.*, 1932, lxxx, 694-699.

## Injection Treatment of Chronic Sinuses: Report of a Case of Infected Thyroglossal Duct Cured by Copper Sulphate Injections.

RAYMOND P. HUGHES, M. D.  
and  
LESLIE M. SMITH, M. D.  
*El Paso, Texas*

**P**ATENT thyroglossal ducts and thyroglossal duct cysts, although not a common disorder, occur frequently enough in an average practice to warrant serious consideration as to what mode of treatment or approach should be employed by the physician. The average man is not qualified to perform the surgery that is necessary to remove this abnormality and needs first to attempt a more conservative type of treatment. Too, there is a great volume of patients that cannot afford the expense which the surgical procedure entails.

Comparatively few cures of this embryological phenomenon have been reported by the use of injection of sclerosing fluids. On the other hand a goodly number of failures following the use of this type of treatment have been reported. It is for this reason and because of the fact that this type of treatment is so simple as compared to surgical excision, that we are reporting this case as such a cure.

The thyroglossal duct is an obliterated embryonal canal which was an epithelial blind in fetal life, extending from the foramen coecum, at the base of the tongue, down posterior to the hyoid bone, to end beneath the deep cervical fascia in the front of the neck near the thyroid isthmus. The thyroglossal duct is connected, embryologically with the thyroid gland. The lumen of the canal which is lined with ciliated epithelium usually becomes obliterated early and is replaced by a cord

of epithelium. Non-continuous portions of the duct may persist and become distended with fluid, thus forming a cyst in any part of its course. When the lower portion of the duct remains patulous a thyroglossal cyst may form, and if this ruptures usually follows.

Fistulae always occur between the hyoid bone and the upper border of the sternum, usually a little below the cricoid cartilage, and generally in the mid-line or near it. They are usually encountered from some period after birth up to the fourteenth year, but are not found at birth.

We find reports of the use of sclerosing agents in the treatment of these conditions as early as 1829 when Dzondi<sup>1</sup> reports the effectual obliteration of a cervical fistula of the neck by the use of liquor nitrici hydrageri. In 1933 Cutler and Zollinger<sup>2</sup> gave us rather detailed reports of several cases of fistulae and cysts that were effectively treated by this method. They employed two different solutions, i. e., Zenker's fluid and a modified Carnoy's solution. In 1935 M. W. Sherwood<sup>3</sup> of Temple, Texas, reported the cure of two abdominal sinuses, three cervical fistulae and one urethral fistula by the injection of modified Carnoy's solution.

#### CASE REPORT

Mr. J. D., a white male, 38 years of age, came to us March 8, 1937, complaining of a painful swell-

(Continued on page 193)



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## QUACKERY'S PLACE

Someone has said that if a bridge is to be built the services of a competent engineer are required. There is just one way to construct a bridge correctly, and obviously the services of a cultist would be dangerous.

Why are there no veterinary cults? What sort of care is given the sick pig by the worried husbandman? Is a cultist called in to apply his eager hands along bristly spinal columns? How much aid could a faddist on diets or deep breathing give to a sick cow? Would a neurocalorimeter help fix up Fido's distemper? How about a good old colonic irrigation for the pregnant pussy cat? Why not a course of electronic vibrations or an electric belt for the impotent bull, or better yet, a goat gland rejuvenation? What perverted line of reasoning leads some people to seek competent medical care for their sick animals, and when occasion demands, drag their children off to the dangerous den of some quack or cultist? Can it be that human life is held in such cheap regard? Why aren't human lives as holy as those of domestic animals?

Of what relative merit are present-day astronomers as compared to the quack astrologers? Neurologists and phrenologists? Chemists and alchemists? The ignorant gibberish issuing from the mouths of today's cultists suffers by comparison with the concepts of yesterday's medieval pseudo-sciences.

If a house be built on a poor foundation the day must come when the entire structure, glittering though it may be, will topple in destruction. Just

so with quackery and cults. Glibly though these money-grubbers may clothe their basic premises with confusing jargon, the rottenness of their foundations is still a reality.

Ignorance in an engineer would not be tolerated by society. Guesswork by a public accountant would meet swift punishment. Quack chemists and astronomers would be quickly shooed into oblivion. How much longer will society allow any of its members to be cared for bodily and mentally by the unspeakable quacks now flourishing like rotten weeds?

There is only one way to do anything—that is the right way, found to be so through ages of experience based on the solid foundation of truth and knowledge. There is only one right way to treat sick human beings. Systems and cults have no place in the delicate, often dangerous business of caring for human lives.

Many in New Mexico and Texas are today in the clutches of the quacks and cults. Will help come before it is too late?

Arizona has made a proud start in abolishing quackery. Her basic science law is calculated to kill off the cults at their roots in their foul soil of ignorance. Thus does the youngest state in the union point the way for others to follow. Honor to Arizona! For humanity's sake, let her example be not wasted on the legislative bodies of her sister states.

## INTERNATIONAL COLLEGE OF SURGEONS

One of the most remarkably fast-growing scientific organizations of today is the International College of Surgeons. Founded at Geneva, Switzerland, in 1935, chapters have been set up and are functioning in nearly all the civilized countries of the globe. Men of exceedingly high calibre, professionally and personally, have banded together to further the interests of surgery as a science.

No conflict in interests is apparent between the International College, the American College of Surgeons or the Royal College of Surgeons. The object of this new society is "to gather together eminent surgeons of each nation, free state, and dominion in the world into one great organization with the thought in view that the personal exchange of views of the leaders in surgery will do much to advance the science of surgery and also promote a better understanding between those who in every country are working for the good of humanity."

We rather like that purpose as stated. Should that goal be perpetually striven for, the initials F. I. C. S. and M. I. C. S. cannot help but increase in meaning and prestige as time passes on.

## GALLUP—FIFTY-SEVENTH SESSION

Great credit is due the McKinley County (N. M.) Medical Society for the general excellence of the fifty-seventh annual meeting of the New Mexico Medical Society, held in Gallup May 11-13. A long list of guest speakers appeared, gave of their knowl-

edge, and mingled in personal contact with the registrants. The attendance this year, despite the long distances traveled by many, was above the average.

Interest to many was heightened by the various types of entertainment, such as the Indian dances. Quarters for the meeting were well chosen. So, in addition to learning something, the visitors enjoyed a relaxing vacation.

Dr. Geo. T. Colvard of Deming was elevated to the presidency, succeeding Dr. E. W. Fiske of Santa Fe. Other officers elected: Dr. W. B. Cantrell, Gallup, president-elect; Dr. Wallace Martin, Clovis, vice-president; Dr. L. B. Cohenour, Albuquerque, secretary-treasurer; Dr. C. B. Elliott, Raton, councillor 2 years; Dr. R. O. Brown, Santa Fe, councillor 2 years; Dr. H. A. Miller, Clovis, councillor 3 years; Dr. R. L. Bradley, Roswell, councillor 3 years; Dr. Carl Mulky, Albuquerque, councillor 1 year.

Albuquerque was selected as the meeting place for 1940.

### BLOOD PRESSURE AND WEIGHT CHANGE

As age increases and its accompanying changes are wrought in the body, it is expected that the blood pressure will gradually increase. It is well known that an increase in weight will usually be related to an increase in vascular tension.

Ley<sup>1</sup> has recently studied the records of 3516 examinees for life insurance from the standpoint of weight and blood pressure. He concluded that:

"1. After a reduction in weight of 5 per cent or more the blood pressures were found to be reduced, despite the fact that the examinees were five years older.

2. Increases in weight showed greater increases in blood pressure that might be attributed to advancing age.

3. The older and more obese subjects were more successful at weight reduction.

4. Loss of weight in normal weight people showed greater reductions in blood pressures than did similar losses in the overweight group. Gain in weight among the normal weight people showed less increase in blood pressure than similar gains among the overweight classes."

So that there is added reason for the physician to guard his patients from obesity. Who envies the fat man?

1. Ley, Harold A.: The Effect of Change in Weight on Blood Pressures as Shown in a Study of 3516 Examinees; *Proc. L. E. Ex.* 1:33, March-April, 1939.

### TWENTY-FIFTH ANNUAL (RE-UNION) MEETING OF THE SOUTHWESTERN MEDICAL ASSOCIATION

There have been three distinct periods in the growth and development of "Southwestern". Some of our members have been associated with the organization through all of these periods. The Railway Surgeons' Association of the Southwest antedates the time of most of us, but some can recall it with pride and affection, and all of us should hold the organization in grateful memory,

because out of its needs and unselfishness. The Medical and Surgical Association of the Southwest was born in 1913, holding its first annual session in 1914. For twenty years that Association grew and made its contributions to the medical life of the Southwest. Five years ago we decided to continue under the more euphonious name of "Southwestern Medical Association". Under whatever name, however, it has had the same spirit and throughout this quarter of a century some members have remained constant in their interest and devotion. To them, it is intended that the Twenty-fifth Annual Session shall express grateful recognition.

For the sake of this meeting, Charter Members will be regarded as those who participated in the reorganization of the Railway Surgeons' group in 1913 and those who joined them in 1914 to form the Medical and Surgical Association of the Southwest.

In order that too close a line may not be drawn, due recognition will also be given to those who have been in the organization for twenty years or more.

All doctors who can qualify in either of these groups are urged to make their plans to attend the meeting in El Paso, November 9, 10, 11. An extremely interesting program is being prepared and a special section of the program will be given over to the Charter Members, in which they will have active participation, as well as receive recognition for their faithful service —W. WARNER WATKINS.

### GLYCOSURIA AMONG JEWS AND NON-JEWS

The impression has long been abroad that for some reason, Jews were more apt to acquire diabetes than were the non-Jews. The reasons behind this idea have not been well developed. Recently a study by Johnson<sup>1</sup>, who tabulated physical examinations, made on approximately 1000 Jews and 1000 non-Jews, went to show that the Jewish elements are a great deal more apt to show glycosuria. He found 1.72% of the non-Jews showing sugar in the urine. 4.51% of the Jewish group showed sugar in the urine. 4.48% of the Jewish subjects, taking the periodic health examination, showed over 1% sugar, while none of the non-Jewish showed that much sugar. The group studied by Dr. Johnson were apparently healthy individuals taking a periodic health examination under the direction of the Life Extension Examiners. As a part of routine examinations sugar determinations were made on urine of the 2000 subjects. It was stated that the incidence of glycosuria in Jews was found to be 160% higher than in the non-Jewish examinees. Blood sugar estimations were not done and the policy holder was not studied from the standpoint of attempting to diagnose diabetes. So that caution should be observed in interpreting these results as indicative of the incidence of actual diabetes in Jews as compared with non-Jews. But Johnson feels that, "Among diabetics we would expect a very similar ratio to exist between Jews and non-Jews."

Studies of this sort are valuable in that they tend to provide items of proof or disproof of certain suppositions that are rather commonly held by physicians.

1. Johnson, Harry J.: "Comparison of the Incidence of Glycosuria Among Jews and Non-Jews"; *Pro. Life Ext. Ex.*, 1:42, March-April, 1939.



## Special Section

# Arizona State Medical Association

PRESTON T. BROWN, M. D.  
*Associate Editor*

### BRINKLEY vs. FISHBEIN

The transcript in this libel suit now appearing in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION provides most interesting reading and should be read by every physician. Dr. Brinkley, it appears, grossed over a million dollars in 1937, a very comfortable sum especially in a section of the country where various schemes have been proposed for the relief of those suffering from the lack of medical care. Our members should certainly read this case as reported in the Journal beginning with May 13 and running in consecutive numbers until completed.

### THE MARICOPA AUXILIARY ENTERTAINS

The most successful of all Auxiliary parties was held at the home of Dr. and Mrs. W. P. Sherrill on Friday, May 26, with Mrs. Howell Randolph as co-hostess. The men were entertained at an al fresco barbecue supper in Spanish style. Mrs. Lloyd K. Swasey entertained with violin selections. An orchestra was organized consisting of ex-professional musicians—Kent, Hamer, Lytton-Smith, Herzberg, Peterson, and Mrs. Running. They performed creditably popular tunes of the "mad twenties" (their prime). All were pleased and surprised that they were not more "corny". They escaped with their lives. Games were played throughout the evening and a grand time had by all.

### PRELIMINARY REPORT

J. D. HAMER, M. D.

*Delegate to A. M. A. from Arizona*

This paper will be confined to remarks concerning some of the deliberations and actions of the House of Delegates at the St. Louis session held in St. Louis, Mo., May 15 to 19th. By necessity, owing to the time allotted for its presentation, many omissions will occur, but the writer will attempt to discuss with you some of the most important phases of the activities of the House. It is true that a great deal of time is consumed during the sessions of the House in receiving and adopting the reports of the Officers and various Councils and Committees, and attention is drawn to these, if you are interested in reading them, to last week's issue of the Journal of the A. M. A. I would direct your attention especially to the address given before the House by the retiring President, Dr. Irvin Abell. There is excellent material there for study and thought, and shows how he, and others of his committee who were appointed to act as a consulting board with governmental offi-

cials, tried to observe all the principles and policies adopted by the House of Delegates in its relations to proposed matters of public legislation affecting our profession. It was interesting also to note his remarks concerning the purposes and methods used by some governmental departments in smearing our profession before the public, especially in their propaganda relating to the federal indictment of our members and officials, for "monopolistic practices operating in restraint of trade."

The House of Delegates became interested in several new items of business and I shall review briefly several of them. The By-Laws of the Association was amended in order to increase the capacity and function of the Council on Medical Education and Hospitals. Heretofore, this committee consists of seven members, but next year, 1940, this same committee will have nine members, and it will be served by men who are selected because of special interest and training in the various aspects of medical education, including premedical education, undergraduate and graduate education, as well as the work of the hospitals. The work of this Committee during the past few years has become greatly enhanced owing to the creation of the various certifying specialists boards, and the work of so many special medical and surgical societies of various sorts. A resolution introduced by the State of New York plunged the reference committee and the House as a whole into confusion, particularly after the newspapers over the land published a wholly misunderstood article as to the intent of the resolution and the truthful attitude of the House upon it. This resolution dealt with the problem of membership of Negro physicians in the A. M. A., and was sponsored chiefly because many colored physicians in the South were denied participation in many federal medical functions because they were not members of the A. M. A. As stated before the intent of the resolution with its subsequent lack of an adoption per se was somewhat misunderstood by the press. The House failed to adopt the resolution as written and presented for one reason only and that reason is very clearly defined in the constitution and by-laws of our organization. What was that? Well, under the democratic principles of our organization, the local county medical society has the full power to pass upon its membership, and if the members of any county society feel that Negro members should be admitted, it is their business to decide. It was pointed out that many societies locally do accept colored physicians into membership, and so far as the House of Delegates was concerned, the local society must still decide for itself. There are no questions asked so far as membership in the A.M.A. is concerned, if a county society elects a colored physician to its roster.

Topics of greatest interest and significance placed before the House were those relating to the

Read before Maricopa County Medical Society, Phoenix, Arizona, June 5, 1939.

medical survey carried out last fall and winter by the Committee on Supply of Medical Service and secondly, the report of the special reference committee on the Wagner health act now in the halls of Congress. The first of these shows some interesting, instructive and enlightening results and varied in some respects a great deal with some of the propaganda emanating from the sanctuaries in Washington. The Bureau of Medical Economics prepared a record form to be kept for one week by physicians and dentists during each of three periods selected to obtain a representative sample of services rendered during one year. To date physicians and dentists in 453 counties in 33 states have completed and returned 12,549 report forms which represent actual daily records of free medical and dental services rendered. Each record form called for three definite sets of information, i.e.: 1. the number of persons given medical services or referred to some source for medical care, 2. free surgical services, and 3. abuse of free services, wherein physicians were asked to discuss their observations and experience concerning any abuses that may exist in their communities in hospitals, dispensaries or clinic facilities and services intended for the indigent sick.

Following is the "Preliminary Report of the American Medical Association Study of Free Medical Services":

"The record of the number of persons receiving free medical services was restricted to the persons seen in the office and the home because information concerning free services rendered in hospitals, clinics or other institutions was to be obtained on other forms in the general Study of Need and Supply of Medical Care. Likewise, only those persons were included who received services without charge and from whom no payments were received or expected by the physicians or dentists. The instructions were specific that no persons were to be included where there was a possibility that the physician would be paid from some source such as relatives or friends of the patient or welfare, relief or philanthropic agencies. The instructions also specifically called for the exclusion of persons for whom charges could not be collected. Frequently it is a practice for physicians or dentists to enter a charge in their records even though they do not expect to receive payment. The exclusion of all such patients who constitute delinquent debtors or "enforced charity" was necessary in order to avoid including any patients from whom some payments might possibly be received later.

In regard to the observations and experiences concerning abuses of facilities and services for the indigent sick, the replies ranged from no comment to carefully prepared suggestions and criticisms of the organization of medical services for the indigent in the community. These observations were carefully grouped into five main categories that were indicated from the replies.

Table 1 shows the number of forms received during the three periods of the Study from July, 1938, to March, 1939.

Table 1.—STUDY OF FREE MEDICAL CARE  
(Form 1F)

Number Forms Edited and Used in	
Tabulation .....	10,486
Two or More Doctors Reporting on	
One Form .....	56
Not Used in Study (Incomplete or	
Inaccurate) .....	2,007
<hr/>	
Total Number of Forms 1F Received	
(All Periods) .....	12,549

All records received were carefully examined to make certain that the instructions had been followed and that the information recorded was leg-

ible and accurate. The records which were incomplete or improperly completed were discarded. The information contained in 10,486 completed records of free medical and dental services was placed on punch cards for machine tabulation. Fifty-six forms were kept as a combined record by two or more physicians. These forms were separated from the forms kept by individual physicians and were tabulated separately.

#### *Representativeness of the Replies*

A total of 8,820 daily records of free medical services were kept by physicians for one week in each of the three periods. These records were distributed fairly equally in each of the three periods of the Study as there were in excess of 2,000 records for each period.

First it was necessary to determine whether the records received were representative of medical practice throughout the country. This required an examination of the records according to essential factors which might influence the replies by physicians, such as length of time in practice, type of practice, geographic location, and the time of year the record was kept.

The tabulation of 8,418 records revealed that the physicians reporting had practiced medicine an average of 19 years. This average length of time in medical practice coincides with the length of time in practice shown by other studies such as "Distribution of Physicians in the United States" which is based on information furnished in the American Medical Directory.

A group of 8,861 records also indicated the various types of practice for the physicians replying. The distribution of replies among the several types of practice again coincides fairly closely with known information concerning the distribution of physicians according to specialties. More than 60 per cent of all replies were received from general practitioners, with the remaining replies distributed among all the specialties in approximately the same proportion that each specialty bears to the total number of physicians. The physicians who indicated some special type of practice were considered as specialists, although many probably were not limited specialists in the sense of devoting full time to a special type of medical practice. This distribution of more than 60 per cent of replies from general practitioners and less than 40 per cent from specialists and those devoting special attention to a specialty is in accord with the known distribution of physicians in these two classifications.

Tabulation was also made of the distribution of the records according to states. Again the geographical location of the physicians, who completed records, in 450 counties in 31 states affords a fairly representative cross section of the physicians in the United States.

The replies were collected in each of three different periods of the year in order to obtain information that would include seasonal variations in the number of patients, inasmuch as the number of patients is dependent on fluctuations in the incidence of illness. For example, several studies indicate that the months of December, January and February have a higher incidence of illness than the summer months such as June and July. In all, eight months or two-thirds of a year was the total time included in the three periods during which physicians kept weekly records of free medical services. These same eight months would probably account for 70 per cent of the total incidence of illness. Records kept during this period included weeks when the incidence of illness was high and weeks when the incidence was low. Consequently, the average of the number of patients reported in



the records included in the Study would be representative of an average week during a year.

#### *Information Obtained*

The essential information revealed by the tabulation of records kept by physicians is as follows:

**Number of Persons Treated by Physicians.**—A total of 3,633 weekly record forms indicated that 730,387 persons received medical services from physicians in the office or the home. This represents an average of about 84 persons who received medical services in the office or the home from each physician during each week.

**Number of Persons Given Free Medical Services.** A total of 8,571 records of free medical services showed that 117,305 persons were given free medical services by physicians in the office and the home. This represents an average of about 13 persons who received free medical services in the office or the home from each physician during each week.

The number of persons who receive free services amounts to 15 per cent of the total number of persons treated by the physician in the office and the home. The number of persons treated free by physicians in clinics or in outpatient departments or wards of hospitals is not included. Likewise, patients who receive services but fail to pay are not included. Several studies show that this latter group comprises some 20 per cent of the physician's practice.

Including both the patients treated free and those who fail to pay for medical services, the physician receives no remuneration for approximately 35 per cent of the persons treated in the office and the home.

**Number of Persons Referred to Some Other Source for Free Medical Services.** Information reported in 6,957 records of free medical services completed by physicians indicates that 12,188 persons were referred to some other source for free medical services. This represents an average of about 2 persons who were referred for free medical services by each physician during each week.

**Free Surgical Operations.**—Physicians, in keeping the record form, were also asked to report the number of free surgical operations of all types performed for which no charge was made and no compensation was received. A total of 5,642 completed records showed that 11,098 such free surgical operations were performed. This represents an average of about 2 free surgical operations each week.

**Observations and Experiences.**—The final information requested in the record of free medical services asked for comments by the physicians based on their observations and experiences concerning any abuses of facilities and services intended for the indigent sick in the community. The comments in reply to this request fell into the following five main categories:

First, those which pointed out that excessive free services were offered by clinics, outpatient departments and hospitals and that unjust demands for free services were made by persons able to pay. (1,033 or 39 per cent of the total comments were of this type.)

Second, those which stated that persons requiring free medical services were well cared for and that there were no significant abuses in the facilities and services for the indigent. (892 or 34 per cent of the total comments were of this type.)

Third, those which suggested that there were insufficient funds, facilities or organization for certain classes such as transients, accident cases, WPA workers, etc., who are not included in the general program for the care of the indigent. (478 or 13 per cent of the total comments were of this type.)

Fourth, those which complained of political control or inefficiency of public welfare administration as being responsible for lack of more satisfactory services. (199 or 8 per cent of the total comments were of this type.)

Fifth, those which complained of the inability of the county physician, county hospital or free clinic arrangements to cope with the growing demands for free services. (26 or 1 per cent of the total comments were of this type.)

#### *Interpretation of Information Obtained*

The information obtained from the records of free medical services can be used as a basis for determining many of the factual elements in the practice of medicine. For example, an estimate can be made of the total patient load during a year, the total number of patients treated free in one year, the value of free services, the probable costs per treatment for services in the home and the office, the gross and net income from services rendered in the home and the office and similar data. However, these estimates, which must be carefully made and based on sound interpretations, will be included in the more detailed report to be completed in the near future. This complete report will contain additional records from physicians and will present other information concerning free medical services such as the relation of free services to type of medical practice and to geographical location of physicians. Information obtained from the joint records kept by two or more physicians will also be compared with the information from individual physicians. Likewise, an analysis of the information obtained from dentists will be included."

## THE MODERN HEALTH OFFICER

H. D. KETCHERSIDE, M.D.

Unless we stop once in a while to analyze ourselves and our work we are apt to fall into a rut from which it becomes increasingly difficult to extricate ourselves. The public is prone to consider us as glorified policemen whose only function is to enforce certain statutes pertaining to quarantine and sanitation, and that is just what we become if we only do what is required and expected of us.

I do not wish to imply that these are not important functions. They have been responsible for most of the progress we have made in the last fifty years, but I do wish to impress upon you that these methods are wholly inadequate and that very little further progress can be expected from them. We have been fighting single-handed against overwhelming odds. You will all agree that the most difficult problem we have to contend with is ignorance and indifference. Our work becomes simple and almost unnecessary when we are dealing with enlightened public-spirited people who can understand what we are striving to do, and it becomes difficult almost to the point of impossibility when we are compelled to deal with people who have no conception of the problems involved.

This week a colored man, with smallpox pustules covering his face, walked into a doctor's office. He was informed of his condition and sent home to stay in his house until the health officer arrived. When the health officer found him about an hour later, he was having a picnic for all the colored people in the neighborhood. He explained that he had planned the picnic before he knew he had smallpox. It was explained to the throng that they would all have to be vaccinated, but when the nurse went back the same day they had scattered to the four winds and could not be located.

You have all been called to see patients with advanced pulmonary tuberculosis and found the entire family crowded together in one little room, and the patient sleeping in the same bed with two or three little children. You have been horrified and have appealed to public officials who have promptly dismissed the problem and relieved their conscience with the simple statement that there is no money available and no place provided for the isolation of such cases.

I wish to state that the money will never be forthcoming because we ask for it, but if we convince a large group of citizens of the necessity, they will demand that the situation be corrected and the necessary money promptly provided.

Our small voices will not carry far, and our statements are apt to be discounted because we are only doing our duty. I am afraid it has been the voice of a prophet shouting in the wilderness.

It must be obvious to all of you that the time has come when we must teach the individual citizens how to protect themselves, and it must be equally obvious that we can not do this without help.

We personally can reach only a very few. To a large extent, we have been overlooking a great body of volunteers at our own elbows. Perhaps we have been too proud to ask for help. I have reference to the practicing physicians and nurses as well as to the many other fine public-spirited men and women in every community.

This fact was forcibly impressed upon me by the willing response of every one who was asked to aid in a week of health education this winter. They were more than willing, they were actually clamoring to participate and gave unstintingly of their valuable time. The newspapers and radio stations were very generous with space and time.

We are a very complacent people and not easily aroused but when once aroused are apt to be very insistent in our demands that an evil be corrected. We have evils, very glaring ones. If you doubt it, make a survey in your own community. In fact we have so many that we can not afford to dissipate our energy by trying to correct them all at once. I would suggest that you pick out preferably one that promises rather quick and demonstrable results, and concentrate your efforts on it, then it will be easier to marshal your forces against the more difficult ones.

It should not be very difficult to find one. Here in Phoenix I know, and in the other towns of the state I feel quite sure we have an epidemic of diarrhea each year at this season. Why? Because we still have many open toilets and the flies come the first of the hot weather. In this county we have typhoid every year. Why? Because we have cotton pickers and others living along the canal banks and drinking water out the canals and shallow wells. In the state as a whole, probably the greatest problem is the control of tuberculosis, or rather the utter lack of control.

Let us quit kidding ourselves and face the facts. Let us organize the chorus of voices about us and create a body of public speakers whose collective voices can not be ignored.

## INJECTION TREATMENT OF CHRONIC SINUSES: REPORT OF A CASE OF INFECTED THY- ROGLOSSAL DUCT CURED BY COP- PER SULPHATE INJECTIONS.

(Continued from page 187)

ing on the front of the neck of seven months' duration. He gave a history of having cut himself

with a razor while shaving over this area previous to the onset of the present growth.

Examination revealed a sphere-shaped reddish tumor about one and one-half cm. in diameter, situated in the mid-line of the neck about four cm. below the hyoid bone. There was some pus formation at the site of the tumor. A diagnosis of pyogenic granuloma was made and the tumor removed by the use of the high-frequency needle. The patient was subsequently seen on March 30th, at which time there was slight drainage at the site of removal of the tumor. This was treated with antiseptic applications and the patient told that it would probably heal over shortly. We did not see him again until October 14th, six and one-half months later, at which time he returned with a fluctuant swelling at the site of removal of the previous tumor. This was incised and drained of a moderate amount of sero-purulent fluid. On closer examination a cordlike induration was palpated extending upward and backward from the point of drainage. After inserting a probe for a distance of three-fourths to one inch it was felt that we were dealing with a partially patent thyroglossal duct. As the patient was hesitant about submitting to surgery, we suggested the use of sclerosing fluid injections.

The first injection was made on October 19th. About 1 c.c. of a 10% solution of copper sulphate was injected under moderate pressure. Subsequent weekly injections of the same solution were used until November 16, at which time the patient was referred back to the family physician for continuation of the treatment under the same regime. This was carried out and the patient was seen again on March 1, 1938. At that time the sinus tract was apparently closed and would not admit probe nor could any of the copper sulphate be injected. The patient was advised to discontinue treatment for a while and return in a month or six weeks. We did not see him again until October 26, 1938, at which time the wound had completely covered with epithelium and no abnormality could be palpated subcutaneously. The patient informed us that it had been completely healed since April (seven months) with absolutely no drainage nor discomfort.

### SUMMARY

A case of infected thyroglossal duct is here reported as cured by the sclerosing effect of injections of 10% copper sulphate. After seven months interim since the duct healed there have been no signs of recurrence or even of the presence of the tract. This case is reported in the hope that it will stimulate interest in this fairly simple type of treatment of chronic sinuses.

931 First National Bank Bldg.

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*EL PASO  
TUMOR CLINIC  
REPORTS*

This is the account of a session of the El Paso Tumor Clinic, sponsored by the American College of Surgeons. Date: April 25, 1939, El Paso City-County Hospital. Dr. Leslie M. Smith presiding.—Ed.

**CASE I**

**P. H.—Two tumors of clavicle.**

**Dr. Wm. Glasier:** This man, you will probably remember, was presented last time, but at that time we did not have a complete history of him. He has had this swelling at the sternum for the last five years, and for the last five or six months he has also had this swelling in the neck. He had Dr. Pickett treat him for syphilis, giving him four injections of neocarsephenamine. Dr. W. W. Waite said he did all of Dr. Pickett's work, and Dr. Waite looked up to see if he had run a Wassermann on this man, and found that he had not. One Kahn, run in our clinic, was 2-plus, and since then three check-up Kahns all have been negative. He has been on potassium iodide, 15 drops, for a week now. I tried to secure a biopsy several weeks ago, and the tumor bled so hard that I had a hard time stopping it, and did not get the biopsy.

**Dr. Frank Goodwin:** I don't think much more can be said about this patient until he has had a biopsy and a spinal fluid examination. I can see nothing in this lateral x-ray of the chest. The first thing to think of would be a gumma, particularly with the history of a positive Kahn. My first guess would be gumma, and my next guess would be some type of bone tumor, but it seems to me that any malignancy of the bone would not have had a duration of five years without something having happened. I think a spinal fluid examination and biopsy should be done before further discussion.

**Dr. J. W. Cathcart:** I wouldn't want to make a diagnosis. It looks like an osteochondroma of some kind. There is bone in the other tumor, and it doesn't look like a metastasis from the other tumor because there does not appear to be bone in this one.

**Dr. R. P. Hughes:** In most of these bone lesions of tertiary syphilis you get a productive thing rather than a destructive one.

**Dr. John Hardy:** There might be something in the blood picture to throw some light on this condition. You might have a Hodgkin's disease here. This tumor here, I should imagine, is either a giant-cell sarcoma, or, as Dr. Cathcart suggested, probably an osteochondroma. I think that the little history we have of pre-existing syphilis is of no consequence except to muddy the water. I do not think a spinal test, either positive or negative, would throw much light on this condition. This growth seems like an entirely different kind from the other one. I would suggest biopsy of both tumors.

**Dr. L. O. Dutton:** I think the best way to get a

biopsy of both tumors would be by the punch method.

**Dr. Glasier** (in answer of question): The blood came from the tumor itself (during attempt at biopsy).

**Dr. L. M. Smith:** We have certainly to rule out gumma here. We cannot be sure of it, but presumably he has syphilis, as Dr. Pickett must have had reason to give him the treatment he did. In the second place this bone growth is exactly in one of the most common locations for a gumma involving the bone, i. e., the sternal end of the clavicle. I think both of these lesions could be explained on the basis of that. I don't think, though, that we should say that it is syphilis until we have gone into it more.

(The consensus of opinion was that the patient should have biopsies of both growths and a spinal fluid examination, and this was recommended to Dr. Rodarte with the request that he report his findings at an early meeting.)

**Dr. Hardy:** Here's another thing—in the presence of sarcoma you get a positive Wassermann.

**Dr. Cathcart:** Malignancy will give 2 plus.

**CASE II**

**C. S.—Tumor of right breast** (violaceous in color and with a very sharp border).

**Dr. Glasier:** The complaint of this woman is sore on right breast and swelling. She is 50 years old, married, has nine children, the oldest 22 and the youngest 9, all breast-fed for a year. Five years ago she fell and hit the right breast, and a small crust and itching developed. It continued for the next three years, the crust coming off and then reforming, and then a tumor developed, and the doctors prescribed a salve, which did her no good. Finally a doctor sent her here for possible surgery. There are no glands. The nipple is eroded, and there is a lesion about three inches in diameter, with a crust. There is a tumor, freely movable. No glands in the axillary region, no lymph glands. Blood Kahn negative. Rbc., 5,000,000; wbc., 8,500; hb., 90; polys., 74; lymph., 26. Urine negative.

**Dr. Cathcart:** This woman has a definite dimpling in the skin above the lesion, and adhesive skin above the lesion. She has a red area surrounding the nipple, about three inches in diameter. She has an axillary gland. I think there is no question but that she had a Paget's to start with, and now has a carcinoma in the breast with an extension to the axilla. It is movable on the breast wall. I favor referring her to surgery for radical operation.

**Dr. J. L. Green:** I agree with Dr. Cathcart that radical operation or breast removal is advisable. Opinion varies as to what constitutes a radical operation, some favoring removal of axillary glands and pectoral muscles. The operation we do is not so radical, but consists of removal of the entire breast and the axillary glands and then after that perhaps some radiation.

Dr. W. M. Branch: I think this is a malignancy.

Dr. Russell Holt: I think it is malignant, but I think that in malignancy involving the lower half of the breast we should look for pathology in the liver, as often it is a metastasis from the liver. I would suggest an x-ray.

Dr. Hughes: I would like to suggest that if it is removed we get a section of the skin to see if there is any Paget's

Dr. Smith: I think it is Paget's, and I think a radical operation is in order.

Dr. Cathcart: I think that this group is going to have to take some stand on these breast carcinomas that come out here, on the question of whether the breast should be irradiated without operation; and which cases should be classified as operable and which are inoperable, and irradiate certain groups. In the first place, the hospital does not, I think, have a machine for radiation, and I do not believe that we are justified in asking the county to irradiate these cases. (Here Dr. Cathcart read from a small magazine about some findings in regard to cancer in California, giving average life expectancy of breast cancer cases, definition of radical breast amputation, etc. It stated that their opinion was that preoperative irradiation was of more value than postoperative. Stenographer should have got all this, as it was most instructive, but didn't). I am going to be in New York next month, and am going to make it a point to go to Memorial, for if anyone in the world is going to be able to put radiation on the map they will do it, as they lean strongly in that direction. Mayos, on the other hand, lean the other way, clear over on the surgical side.

### CASE III

E. S.—Tumor of right breast.

Dr. Glasier: This 17-year-old girl was playing baseball four years ago when she was hit on the right breast. A small lump developed which became progressively larger. Blood Kahn was negative. Left breast completely normal. Mass is freely movable, medial to the nipple, about the size of the nipple or a little smaller.

Dr. Cathcart: There is one point in connection with this—as you feel of this it snaps right out from under your finger. Malignancy doesn't do that. She had this small, round, nodular, freely movable mass in the inner upper quadrant of the right breast, which snaps out from under the examining finger freely. It is probably a fibroid adenoma or fibrocystic adenoma. Surgical removal I believe, would be indicated. (On questioning, patient said it was tender all the time.) It is tender all the time, which is not like a malignancy. My suggestion is just removal of the mass itself.

Dr. Green: I think Dr. Cathcart has covered it. It should be taken out and examined.

Dr. Cathcart: There is a question whether these things ever become malignant, and whether they might just as well not be left alone, but it is a source of irritation and the possibility of malignancy occurring is greater than it would be otherwise.

Dr. Hardy: Some time ago a fellow said that his idea was that the reason malignancy occurs more often in uterus, breast and ovaries is because these three organs atrophy about the age of 45.

Dr. Cathcart: That is true, although, of course, not applicable in this case, since here we are dealing with a young woman.

### CASE IV

J. A. (25-year-old American, married)—Tumor of head.

Dr. Glasier: This patient has had this tumor at the back of the skull over the insert of the left sternocleidomastoid, the size of half of small hen's egg, since she was 13 years old. It started as a pimple, with some slight pain, and slowly increased in size. She has had no treatment whatever. At the present time there is slight pain on manipulation. She had one other growth similar to this on her chin at the age of 12, which was removed and has not recurred. There is no redness or induration, and pain only on motion.

Dr. Hughes: I think it is a sebaceous cyst. It is too soft for a lipoma, and it is probably a very large sebaceous cyst.

Dr. Dutton: Most sebaceous cysts as large as this are harder than this.

Dr. Hardy: I think it is a lipoma. I can slip the skin over it, and I believe I can feel a lobulation.

Dr. Green: I believe it is a lipoma. It is a little too soft for a sebaceous cyst, and, as Dr. Hardy says, you can move the skin over it.

Dr. Goodwin: I don't know, but I don't think it is a lipoma. I think it is a cyst.

Dr. Cathcart: I think it is a cyst.

Dr. Branch: I believe there is some fluid there.

Dr. John Peticolas: Lipoma.

Dr. Dutton: It feels more like lipoma to me.

It was recommended that the growth be removed in the clinic and examined.

## COMMUNICATIONS

Sir:

Under the Federal Food, Drug and Cosmetic Act the standards of strength, quality and purity laid down in the Pharmacopoeia for the drugs and preparations that it recognizes become the legal standards for such drugs and preparations. As a consequence, the manufacturer, the dispensing pharmacist and the physician have a common interest in the Pharmacopoeia. The manufacturer is enabled to furnish the pharmacist with officially standardized materials, the pharmacist to dispense, with exactitude, just what the physician desires, and the physician to write his prescriptions in simple terms with confidence in what the pharmacist will dispense. Without the Pharmacopoeia there



would be chaos. Without confidence in its sponsors the situation would be perilous.

The Convention for the Revision of the Pharmacopoeia decides the principles under which the Pharmacopoeia is to undergo revision. It also elects the officers of the convention, a board of trustees to manage administrative, legal and financial matters, and a committee of revision, all to serve until the next revision convention meets.

The Committee of Revision is composed of fifty elected members. Seventeen of these are doctors of medicine, representatives of clinical medicine, pharmacology, serology, therapeutics, etc. The other thirty-three members belong to pharmacy and the allied sciences, and include representatives of dispensing and manufacturing pharmacy, inorganic and organic chemistry, botany pharmacognosy, biological assay, etc.

In the past the Committee of Revision has included men of the highest rank in the several fields. That it may continue so to do, it is asked that the various bodies authorized to send delegates to the convention will appoint their full quota of delegates, and will select these from among those of their own people whom they know to be informed and at the same time prepared to attend the convention.

Cordially yours,

WALTER A. BASTEDO, M. D.

(President of the U. S. P. Convention.)

(Ed.—The official call issued by Dr. Bastedo:)

In compliance with the provision of the constitution and by-laws of the United States Pharmacopoeial Convention, I hereby invite the several bodies entitled under the constitution to representation therein to appoint three delegates and three alternates to the Convention for the Revision of the Pharmacopoeia of the United States of America, which is to meet in Washington, D. C., on May 14, 1940.

WALTER A. BASTEDO, M. D.,

President of the U. S. P. Convention.

Sir:

It was with a good deal of embarrassment and chagrin that I received a notice from the printer asking if I wanted reprints of the article in the Journal of Southwestern Medicine, the article having been published several days before I even knew it. It seems to me that any author should have the courtesy of reading his proof before the article is published.

In view of the fact that the copy that I handed the secretary of the Arizona State Medical Association was not a corrected copy and there were mistakes in it, obviously the mistakes went through without being corrected. Furthermore, since that series of cases reported consists of both my own and Doctor Dolley's cases, the paper should have included both our names, and as it appears in the Journal only my name is attached to it. I feel this is, indeed, very bad because in subsequent references in other articles I will be quoted without having given Doctor Dolley credit for his cases.

I am wondering, then, if there isn't some way of correcting this in the subsequent Journal to the effect that the article should have had beside my name Doctor Dolley's, as though we were co-authoring the paper. I know of no other way of trying to correct it, but if you have any other suggestions, I would be glad to hear from you.

Very truly yours,

JOHN C. JONES, M. D.

## NEWS

### General

The 18th annual scientific and clinical session of the American Congress of Physical Therapy will be held Sept. 5, 6, 7 and 8, 1939, at the Hotel Pennsylvania, New York City. Preceding these sessions the Congress will conduct an intensive instruction seminar in physical therapy for physicians and technicians on Aug. 30 and 31 and Sept. 1 and 2.

Registration is limited to 100 and is by application only. For information concerning seminar and preliminary program of convention proper, address American Congress of Physical Therapy, 30 N. Michigan Ave., Chicago.

### El Paso

Dr. R. B. Homan, Jr., was elected national secretary of the American College of Chest Physicians, which met recently in St. Louis.

A regular meeting of the El Paso County Medical Society was held Tuesday, May 2, 1939. The scientific program consisted of a discussion of "The Management of Head Injuries," which was presented by Dr. John A. Hardy.

The remainder of the meeting was devoted to the business activities of the society, which was open to general discussion. The executive committee and standing committees reported their activities since Jan. 1. Dr. J. L. Stowe presented his financial report.

The annual banquet of the El Paso County Medical Society was held Monday, May 22, 1939, at the Hilton Hotel. Refreshments were served in the Green Room from 7:00 to 8:00 p.m. The banquet began at 8:00 p.m. The floor show which had been arranged began at 9:30 p.m.

A regular meeting of the City-County Hospital Staff was held Wednesday, May 17, 1939, at 6:30 p.m. at City-County Hospital. The scientific program was as follows:

Case report: "Landry's Ascending Paralysis" ....  
..... Dr. S. H. Newman  
Case report: "Toxic Encephalitis" .....  
..... Dr. J. E. Morrison

Tuesday evening, May 2, 1939, the Reeves Ward Winkler County Medical Society, of Pecos, Texas, had as guest speakers Dr. J. Mott Rawlings, whose paper was on "Newer Knowledge of Vitamin Therapy," and Dr. W. E. Vandevere, who spoke on "Mastoid Infections."

The regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, May 2, 1939, at 12:10 in the auditorium of the Nurses' Home. Luncheon was served. The scientific program was as follows:

"Fracture Dislocation of the Cervical Spine with Transection of the Spinal Cord".....Dr. L. W. Breck  
 "Thoracoplasty" (with motion pictures).....  
 ..... Dr. F. P. Miller

The regular dinner and staff meeting of the Southwestern General Hospital was held Thursday, Apr. 27, 1939, at 6:30 p.m. in the hospital auditorium. The program was as follows:

"Pyperchromic Anemia of Pregnancy; Case Report" ..... Dr. Harry Leigh  
 "Prolonged Labor with Uterine Inertia and Transverse Arrest" .....Dr. Francis Snidow

Dr. Ralph Homan has been elected as councillor of the first district of the Texas State Medical Association.

Dr. Leslie M. Smith has been elected president of the Texas Dermatological Society.

## AUXILIARY NEWS

### *El Paso*

Mrs. Branch Craige took her place as president of the Woman's Auxiliary to the El Paso County Medical Society at the installation luncheon at the El Paso Country Club, May 1.

Mrs. Craige is a member of the boards of the Woman's Club, Public Library, Family Welfare, and St. Ann's Mission. She is treasurer of the El Paso Student Loan Fund, and a member of the El Paso Chapter of the American Association of University Women.

Other officers installed at the luncheon were: Mrs. James W. Laws, president-elect; Mrs. Henry T. Safford, Jr., first vice-president; Mrs. W. E. Vandevere, second vice-president; Mrs. Leslie Smith, third vice-president; Mrs. H. L. Murphy, recording secretary; Mrs. J. Travis Bennett, corresponding secretary; Mrs. Paul E. McChesney, treasurer.

Directors are: Mesdames F. O. Barrett, T. C. Liddell, George Turner and Will P. Rogers.

Mrs. Craige has announced her standing committees: General health and program, Mrs. Henry T. Safford, Jr.; public relations, Mrs. James W. Laws; child welfare, Mrs. J. Mott Rawlings; physi-

cal examination, Mrs. R. B. Homan, Jr.; social Mesdames N. H. Keller and George M. Edwards; courtesy, Mrs. Robert Thompson; Music, Mrs. Samuel Rennick; telephone, Mrs. J. L. Stowe; yearbook, Mesdames Louis Breck and R. P. Hughes; publicity, Mrs. M. P. Spearman; historian, Mrs. Gerald H. Jordan; parliamentarian, Mrs. Hugh Shannon; ways and means, Mrs. Jacob Rogde; "Hygeia," Mrs. Francis A. Snidow.

## MISCELLANY

### NATIONAL SOCIETY FOR PREVENTION OF BLINDNESS

In the annual report of this society, it is shown that during the past 30 years, the campaign to eradicate ophthalmia neonatorum has brought about a 75 per cent reduction in the number of infants who lose their sight at birth. Also great strides in the control of syphilis are of particular importance in the protection of eyesight, as approximately 15 per cent of all blindness can be traced to syphilis.

Sight saving classes are now providing a normal education for approximately 8,000 American school children, the number of classes having grown to 589, an increase of 31 over the year before. About 450,000 copies of the society's pamphlets and 12,000 posters were distributed, and a motion picture film, "Preventing Blindness and Saving Sight," was shown to 1,500 audiences. Exhibit material was provided for 125 conventions and a transcribed radio program on the Fourth of July was used by 200 stations.

The society's expenditures for 1938 amounted to \$169,000. Financial support is received through voluntary contributions from 17,000 members and donors in all parts of the country.—Virg. Med. Mo.

### DRINKING AND TRAFFIC ACCIDENTS

The toll of traffic accidents has forced upon us the problem of the "accident-repeater" and also that of the driver under the influence of alcohol. The last report of the Committee on Tests for Intoxication, made to the National Safety Council, brings out two important points: half the drivers killed in automobile accidents had been drinking and one-third the pedestrians killed had been drinking.

The effect of alcohol in impairing judgment and mechanical ability is too well known to need comment. The report states that the average driver with a blood-alcohol concentration of 0.15 per cent or more is 55 times as liable to have a personal-injury accident as is one without alcohol. While there are minor variations in the response of different persons to alcohol, in general the commonly accepted evidences of intoxication have paralleled the alcohol concentrations in the blood and tissues.

In Evanston, Ill., a study by Holcomb showed



that 12 per cent of 1,750 non-accident drivers stopped and tested had been drinking, whereas 47 per cent of the accident drivers had been drinking. He also found that from midnight to six in the morning was the most dangerous period on the road from the standpoint of drunken drivers, inasmuch as over 40 per cent of all drivers tested during that period had been drinking.

After thorough tests of various procedures for examining drivers involved in accidents for evidence of alcohol, the committee advises the use of special report forms, chemical tests for the presence of alcohol in breath, blood or urine, and medical examination to prevent the confusion of illness or injury with alcoholism. Only by the accurate determination of the degree of alcoholism and by the prompt and sure punishment of the drinking driver can this menace be curbed.—N. E. Jo. Med.

#### GOOD PAPERS GONE WRONG

Speakers mumbling down into their vests with their necks bent forward, or standing in a sloppy attitude, will spoil the finest medical paper that was ever written. Talking too long or not having the talk properly organized; talking too technically for the particular audience, will result in the failure of a very fine piece of work or statistical observation. Trying to compel an audience to keep statistics in mind as the speaker reads them off of paper, or wandering off the subject is deadening; the reason people do not walk out is because they

are too paralyzed to do so. Walking nervously around, indulging in some mannerism like scratching the face or tapping the foot; not looking the audience exactly in the eye, will turn three-fourths of a medical meeting from a pleasure into a chore for the listeners. \* \* \*

Use a low-pitched diaphragm voice which will carry well. Talk with the mouth wide open, and use the muscles of the face. Words through closed lips sound as though Charlie McCarthy were still locked in his trunk. Words spoken with the face held as though it were a mask of cement will not carry. Adapt the volume of the sound to the size and distance of the audience and the presence or absence of electrical aids to the voice. You can tell very easily by watching the audience whether or not they hear you.

Look the audience in the eye. Look one person in the eye and then another. Make everybody in the entire audience feel that you are talking particularly and individually to him alone. Never let your eyes wander away from the audience.

You ought to be tired after making a speech. That means put energy into it.—Nebr. S. M. Jour.

#### INTRAUTERINE STEM PESSARY

The contraceptive intrauterine stem pessary is universally condemned by the competent, well-trained gynecologist of this and other countries because:

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DELPHIN von BRIESEN, M. D.

1. It does not prevent conception but gives rise in most cases to early abortion.

2. It produces almost universal morbidity because:

- a. It is a foreign body.
- b. Enhances low grade pelvic infection.
- c. Produces communication between vaginal and uterine flora.
- d. Removes natural barrier of internal os in acute infection.
3. Is responsible for such complications as:
  - a. Rupture of uterus, due to implantation in uterine wall.
  - b. Foetal death due to implantation in placenta.
  - c. Premature separation of placenta, due to low grade metritis.
  - d. Complications of labor, due to embedding in cervical wall.
  - e. Ectopic pregnancy.

The intrauterine gadget is not a panacea for the prevention of pregnancy.—Nebr. S. M. Jour.

#### ETIOLOGY OF BRONCHIECTASIS

##### A. The Intrinsic Factors.

1. Respiratory infections.
  - a. Pulmonary tuberculosis.
  - b. Chronic bronchitis.
  - c. Bronchopneumonia.
  - d. Influenza.
  - e. Fusospirochetal disease.
  - f. Whooping cough.

2. Chronic bronchial asthma.

3. Foreign bodies.

4. Stagnating secretions.

5. Bronchial tumors.

6. Poison gases.

7. Congenital defects.

##### B. Extrinsic Factors.

1. Chronic sinusitis.
2. Chronic interstitial pneumonia.
3. Tumors.
4. Aneurysm.
5. Atelectasis.
6. Chronic adhesive pleurisy.

—Texas St. J. Med.

#### BOOK NOTES

PRECLINICAL MEDICINE. By Malford W. Thewlis. Pp. 223, inc. Williams & Wilkins Co., Baltimore, Md. Price, \$3.00.

It is far better to prevent disease than to attempt to cure it. Each year sees us farther on our way in preventative medicine, but the road is still long and much work must be done before a longed-for Utopia can become a reality.

Life span has been markedly increased by the prevention of childhood diseases, but, on the other hand, more people reach old age, and hence increase the incidence of degenerative diseases. Still, much can be done in prolonging life when degen-

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erative disease is found, and this in itself can be classified as a part of preventative medicine. At least medicine puts off, many times for years, the period of dissolution.

The average general practitioner is little interested in preventative medicine. His task is to attempt the cure of patients who present themselves with manifest disease. But more and more, as the public becomes educated through the various agencies of prevention, the family doctor is confronted with the problem, and must acquaint himself with the fundamentals at least if he is to retain the respect of his families.

Books on general medicine give one but a brief knowledge of this type practice, and any volume

dealing with this in a specific way should be welcome.

Dr. Thewlis in his book on "Preclinical Medicine" has written a clear and concise outline which gives at a glance a working knowledge of this vast field. He shows that through a study of preclinical states and pre-disease, a synthetic diagnosis is obtained, by means of which an analysis of disease tendencies are made; that the general practitioner is aided by his knowledge of the life history and actual condition of the patient; that close supervision of the patient must be maintained even in health; that the patient must be kept health conscious and not disease conscious; that disease evils and conditioning periods of disease are critical factors; that adaptation of present clinical methods and research to investigation of preclinical states and predisease periods is necessary; that the importance of a protective program for children and adults is great.

The book is easy to read, has an excellent bibliography, is well printed, and should offer the general practitioner a handy volume for reference after he has read it carefully and learned from its pages how to attach disease before it reaches the symptom stage.—L. S. P.

GRINGO DOCTOR. By I. J. Bush, M.D. Foreword by Eugene Cunningham. Pp., 261. Illustrations, 12. Cloth. The Caxton Printers, Ltd., Caldwell, Idaho. 1939. Price \$3.00.



The Southwestern Empire, for better or worse, has now been won for the white man. The squawk of the radio, the flash of the stream-liners, the 15-story buildings have ousted the six-guns, cow-hands and Indians. Gasoline fumes pollute the air and the peasants speak learnedly of the merits of bitulithic paving. The price of cotton and lettuce is today vastly more of importance than the doings of a rebel band below the border. But only yesterday all this wasn't so. We newcomers to this land of promise must now rely on the written word of the oldsters for orientation in the bloody back-grounds of the history of the Southwest. That story could not be written by a pedagogue—it needs the robust treatment of an old sage-brusher, more interested in the story than its telling.

America's empire wasn't wrested from Ethiopians or "heathen Chinees" across angry oceans. It was snatched, in the royal British way, from contiguous lands and peoples just a few sections of clods away from the holy land of the early Crown colonies. As time proceeded, many of the more pruritic of the adventurers found their way down into our Southwest. What they saw and did and killed there makes a story safe now to tell out loud in books.

One of those present at the dawn's unloading of the circus was Ira J. Bush, M.D. He came into the Southwest when "gone to Texas" was synonymous with "escaped from justice." Managing to live through a large quota of hair-raising adventures on both sides of the Rio Grande, he was finally moved by the itch inherent in all men to write. So he wrote himself a book, and thereby gave those of

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us literate a thousand vicarious thrills of touch-and-go times. Proud episodes are reported without flag waving. Less creditable sequences are not smeared with the face-saving white wash. Unfortunately, Dr. Bush has now passed to his fathers, else "Gringo Doctor" might have been the lively introduction to further volumes on early Southwestern mores.

In undertaking the publication of this work the Caxton Printers have performed a service. But, alas, service is not always profitable. That is to be regretted, for "Gringo Doctor" is one of the books that ought to grace the shelves of every home library in the Southwest.

The medical aspects of the early days on the border are not stressed, thank heaven. There are too many physicians competing in secret-telling in today's writings, anyway. Yet the book is not a disconnected series of anecdotes at all. A man is living in dangerous times, and tells simply how the days passed for him. No social message is implied, no yen to be a Great Thinker is involved. You may draw your own conclusions as to whether you like the ways of the early booted rifle boys or not. But of one thing, be assured—you'll have the devil's own time trying to put this book aside to go do the chores, once you've begun it.

If there's a spark of interest in you left to spare from the daily market quotations, beg, borrow or steal a copy of "Gringo Doctor" and go to it with hands and feet flying. But don't ask for the re-

viewer's copy—he is reading the book again.—M. P. S.

THE VAGINAL DIAPHRAGM. By Le Mon Clark, M. D. Pp., 107, with 53 illustrations. Cloth. Price, \$2.00. St. Louis: C. V. Mosby Company, 1939.

Here is a very comprehensive book of 100 pages, covering the field of use of the vaginal diaphragm.

It points out the advantages. Chief of these are that it is: effective, simple to use, inexpensive, esthetically acceptable to both partners. The numerous illustrations will aid the physician in teaching the patient how to use the diaphragm and how it works.

A book well worth your consideration.—W. J. P.

MANUAL OF TOXICOLOGY. By Forrest Ramon Davison, M. B., M. Sc., Ph. D. Paul B. Hoeber, New York City, 1939.

This book makes an effort at putting this subject within less than 250 pages, stating in the preface that the effort is to present "all that is essential in the field of toxicology, always keeping in mind that the book has been written for the student of medicine and general practitioner." In this the book falls short because it makes statements that are in error, as, "Quinine should be given by vein, and in dilute concentration, otherwise the patient may die of heart failure." "Powders are not readily absorbed by the stomach." "Morphine habituation rarely occurs in cases when great pain demands its use." These statements are contrary to general usage and acceptance, and not backed up by facts. There is some carelessness in

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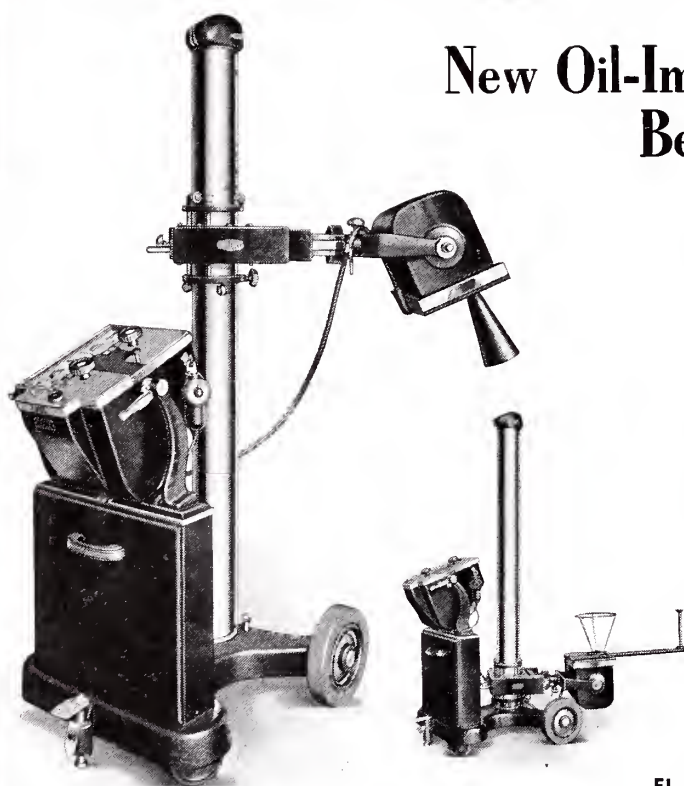
good English usage throughout the book, which makes an impression of carelessness impossible to avoid. A list of 25 preparations for use as antidotes is given, and it is further suggested that every physician have such a bag handy. The suggestion is left on page 25, that strong hydrochloric acid is occasionally used internally. Another questionable procedure is that potassium hydroxide is used as a caustic for chancre, which is contrary to modern procedure. A further misstatement is made on page 75, in the discussion of radioactive substances: "The beta and gamma rays are *not* (italics mine) as powerful as the alpha rays, though the gamma rays are more penetrating than the alpha rays."

The book has some good points, but in the light of the many bad ones it is not generally reliable.—D. vB.

## SCRAPS

Break o' dawn to pick up Bennett, Safford and Pangman . . . El Paso sun warming as the long highway unfolds . . . halting the journey at Carrie Tingley, where Bennett much stricken with a flowery bush . . . Gallup and El Rancho Hotel early in the afternoon . . . the Gallaghers of El Paso, earliest in . . . buying Indian dolls for the two daughters . . . Goodwin, Multhauf, Rennick, Armistead, Turn-

er, Werley—all of El Paso . . . Womack of Carlsbad with a glass of water . . . Ballenger of Albuquerque, just in time to eat . . . Monaco and Anthony of Gallup, steering the affair . . . Cantrell of Gallup, being the host helpful . . . Colvard of Deming, running the sessions as an efficient prexy must do . . . Austin of Carlsbad, stuffing himself . . . Evans of Las Cruces, an old friend from days now gone . . . Barnes of Hot Springs, from our old college . . . Connor of Denver, wondering what is to happen to Colorado U. when Texas comes up to show Southwest football to them next year . . . Stuck of Denver, the brain and nerve man . . . Glazier of Carlsbad, resting from his long trip . . . Palmer of Phoenix, talking of cancer . . . Salsbury of Arizona, commuting from his Indian hospital . . . Arnold of Lincoln, Nebraska, officer of International College of Surgeons, one of the charming personalities that make long trips worth while . . . the long table covered with food Thursday night . . . poker and singing to wee hours . . . Nugent of the International College of Surgeons and Neuquist of the American College . . . high talk and foaming merriment in the bar with a mirror in the ceiling . . . Harris of Albuquerque, versed in Indian lore . . . Wylder of Albuquerque, content with the bright world . . . Lathrop of Albuquerque, cordial in his chat . . . kind boosts given the Southwestern Association by the boys from Albuquerque and Santa Fe . . . Indians ducking when camera lenses point . . . so few women-folks this year . . . inviting one



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# Accidental Discovery

## *Gelatinized Milk* DECREASES INCIDENCE OF UPPER RESPIRATORY INFECTIONS IN INFANTS

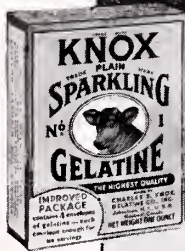
*Many a useful discovery  
has resulted from a chance  
finding by a keen observer.*

Two years ago a group of university workers fed milk containing 1 and 2% plain, unflavored gelatine to a group of infants. There was a lower incidence of vomiting, diarrhea, and constipation than in control groups. As a corollary, they noticed that those receiving the gelatine formula suffered fewer upper respiratory infections. This was interesting enough to demand further study. The work\* was recently repeated in two different clinics and the results substantiated. Knox Gelatine (U.S.P.) was used. It is 100% pure U.S.P. Gelatine—85% protein—in an easily digestible form—contains no sugar and should not be confused with factory-flavored, sugar-laden dessert powders.

\*Further Clinical Observations on Feeding Infants Whole Milk, Gelatinized Milk, and Acidified Milk. C. Loring Joslin, M.D., F.A.A.P.; Bulletin of the School of Medicine, University of Maryland; Jan. 1939.

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and all to E. P., come November and the 25th anniversary of S. W. Medical . . . Multhaupt of El Paso, asking Stuck of Denver what brain surgeons do if one of their patients recovers from an operation, and Stuck's candid reply . . . Morris of Safford, who never loses interest . . . Watts of Silver City, as progressive as they come . . . baked potatoes at the big dinner, scrubbed and tubbed . . . winning an attendance prize at the dinner . . . Gallagher's speeches, Injun dancing, penny-snatching from the floor . . . coolness and stars . . . colorful Indian costumes of the waitresses, not worn until they drop off . . . the evil eye of the camera pointed at papooses, exorcised by payment of a dime . . . bullet holes in windows in the miner's quarters across the tracks . . . red rock cliffs about the town . . . the stadium for the inter-tribal ceremonies . . . the Chief, pride of the Santa Fe R. R. . . roulette and dice . . . no place for a tenderfoot . . . Cohenour of Albuquerque, collecting the money and speaking of turkey hunts . . . Kit Carson's cave in the hills . . . early leaving the nest with the bunk beds . . . saying adios and off in the bright sun . . . the Super-Chief flashing by in the desert . . . gay talk on the way . . . the Rio Grande again, actually silvery in the late afternoon . . . darkness and home . . . greetings and requests for presents from the small blonde daughter . . . see you in Albuquerque in 1940.

#### PHYSICIANS AS ARTISTS

"From time immemorial, medicine and art have been closely associated. The same skill that makes the surgeon's fingers deft with scalpel and ligature is at work in the beautiful examples of sculpture and carving shown in this book. The eye that so quickly and accurately evaluates the gradations in color and texture between normal and pathologic tissue coordinates the hand that wields the painter's brush. The man who chooses medicine as his life's work is largely motivated by a love for his fellow man, else he would select a vocation offering greater monetary reward. From the beginning, he is trained to exercise his powers of observation, and in time develops imagination, sympathy, understanding, philosophy and reverence, all of which are the very essence of art. Moreover, he deals with that most exquisite form of divine art and beauty, the human body.

"An artist-physician has said: 'The tendency of most persons is to regard the artist with awe as a superman endowed with talents not vouchsafed to the ordinary mortal. Most doctors have a latent artistic sense which may be developed to a remarkable degree by constant practice. When opportunity affords, slip away to the park or country, sit down on a camp-stool and practice sketching from nature. At first the results may not be satisfying, but in course of time you will be gratified to notice a marked improvement. An ample sketching kit may be purchased for a small sum and any local artist will be glad to give you instruction.'

"At the least, every physician is able to develop a sensitiveness to and an appreciation for fine art. He can also cultivate a hobby which, if not one of the fine arts is in the class of 'work by the side of work'. Dr. Charles A. Dana, who has always stressed the value of cultural medicine, has advised: 'Be a collector, for example, of stamps or automobiles, or old books, or neckties or pins; or find

diversion in some collateral branch of science; the lore of birds, of fishing and shooting. Make a garden or cultivate shrubs and flowers. These kinds of activities will make your life happier and your professional character more attractive and effective.

—quoted from "Parergon," published by Mead Johnson & Company, Evansville, Ind. Free copy available on request.

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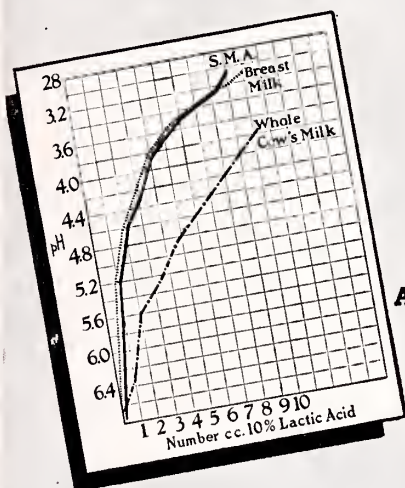
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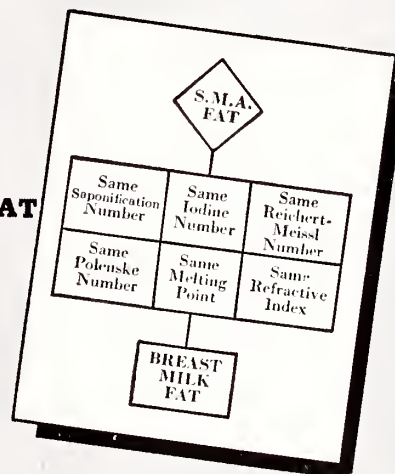
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PROTEIN.....	1.3-1.4%	1.23-1.5
CARBOHYDRATE.....	7.3-7.5%	7.57
ASH.....	0.25-0.30%	0.215-0.226
pH.....	6.8-7.0	6.97
Δ.....	0.56-0.61	0.56
ELECTRICAL CONDUCTIVITY.....	0.0022-0.0024	0.0023
SPECIFIC GRAVITY.....	1.032	1.032
CALORIC VALUE: —PER 100 C. G. . .	68.0	68.0
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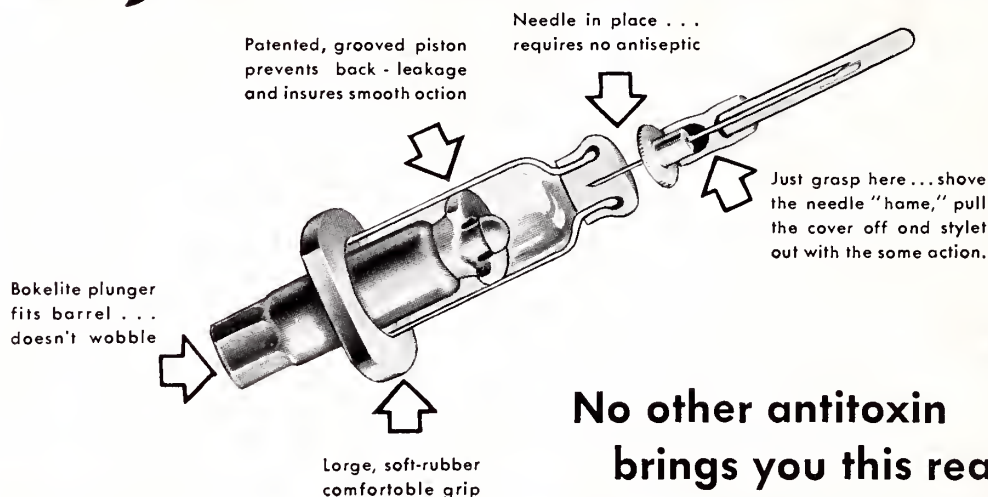
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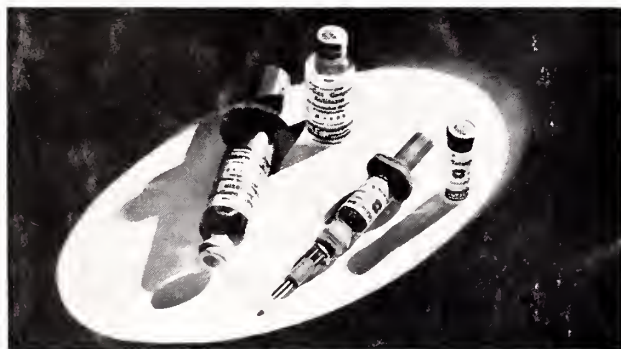
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OFFICIAL JOURNAL OF

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El Paso County (Texas) Medical Society

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Southwestern Medical Association

VOL. XXIII

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No. 7

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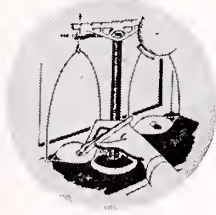


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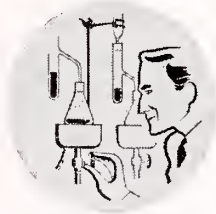
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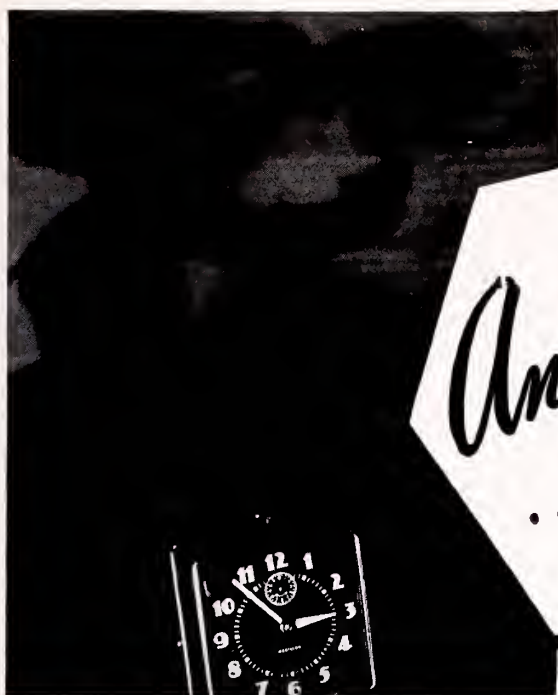
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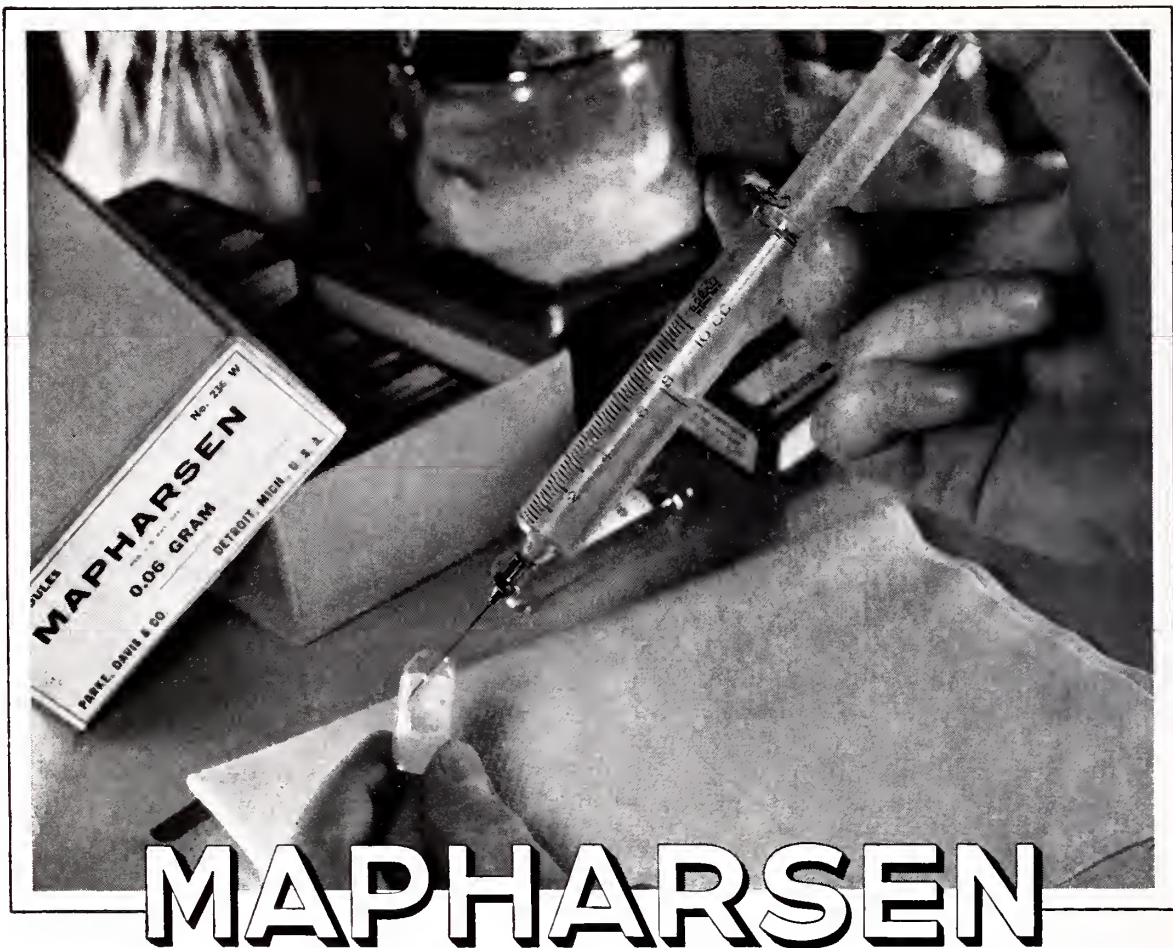
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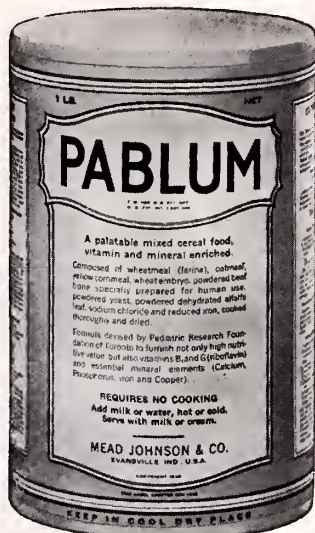
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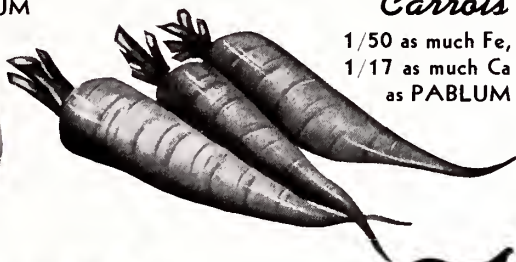
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THE SOUTHWESTERN MEDICAL ASSOCIATION

VOL. XXIII

EL PASO, TEXAS, JULY, 1939

No. 7

## Potassium in Allergy

BENSON BLOOM, M. D., and SAMUEL J. GRAUMAN, M. D.  
*Tucson, Arizona*

IN A previous report<sup>1</sup> it was shown that potassium chloride and some other potassium salts relieve, in many instances, the symptoms of the common allergic disorders, with the exception of chronic asthma. The effectiveness of small doses of potassium salts was so striking that it led to the belief that the potassium ion is intimately related to the problem of allergy, and the suspicion was raised that in allergy we may be dealing with some defect of potassium utilization.

Rusk and Kenamore,<sup>2</sup> who were the first to use potassium chloride in an allergic state, reported six cases of urticaria successfully treated. They suggested the importance of the relationship of potassium and of adrenal cortex to allergy. Subsequently, A. E. Cohen<sup>3</sup> reported eight cases of urticaria which did not respond to potassium chloride. These are, so far, the only clinical reports of the effect of potassium in allergy, and altogether represent a very small number of cases. Since our previous report we have had many informal communications which, in spite of wide variations of opinion, allow us to express the conviction that potassium will prove to be a valuable adjunct in the treatment of many allergic disorders. The results in hay fever are particularly gratifying, those in migraine poor, and the other allergic disturbances respond with varying degrees of success. The present report includes more cases and is made particularly to stress two facts: one, that untoward effects may occur in asthma, and, two, that in hay fever larger doses than we originally thought are sometimes necessary.

### RESULTS

#### *Hay Fever—*

In the 1938 series studied during the Tucson fall hay fever season, there were twenty-three cases of simple hay fever and six of pollen asthma. All of these showed some definite response, which in most instances was quite satisfactory. So far in 1939, we have observed thirty-two cases of pollenosis, due mainly to cottonwood, rabbit bush, or bermuda grass. Three cases of these were of pollen asthma, with two complete failures and only a fair response in the other case. Of the simple hay fever cases fourteen gave an excellent response, eight a good response, three a fair response, and in four cases no effect at all was produced. Of these four failures one was in the case of a rather uncooperative patient; the other three received

maximum doses of thirty grains a day, which we later decided might not be adequate for some patients. Three patients with exceptionally severe hay fever gave no response for about three days with doses up to thirty grains in twenty-four hours. These cases would ordinarily have been called failures and the medicine would have been discontinued. We found, however, that by increasing the dosage to ten grains five times a day very satisfactory relief was obtained.

Judging from our sixty-one cases, it would seem that the great majority of hay fever sufferers can get adequate relief from potassium. Until this problem is more thoroughly studied, we urge that this treatment be carefully supervised, both to avoid the possibility of a serious asthmatic state and to evaluate results properly. This treatment must as yet be considered only as an adjunct to desensitization treatment.

#### *Chronic Sinusitis—*

In twenty patients who had what we think is an allergic type of nasal membrane disease, thirteen were favorably affected by the administration of potassium chloride; in the other seven no effect was observed. All of these patients had chronic nasal discharge, in some associated with pain. Undoubtedly, our criteria for deciding that these cases were allergic are very poor. In each of them there was some definite evidence that we were dealing with an allergic individual, such as history of hives, etc. We could not demonstrate increase of eosinophiles in the nasal secretions, nor are we able to decide definitely whether or not a nasal membrane is allergic from its appearance alone. In speaking of these cases as being "allergic sinusitis" we feel that we are using a poor terminology, but know of no simple one that adequately describes them. Perhaps these cases would be called allergic rhinitis by most otolaryngologists. However, most of them had been treated for many months as cases of chronic sinusitis. We were surprised to find that many nose and throat physicians believe that approximately 50% of all chronic nasal disturbances are associated with allergy; if this is true, it is conceivable that many cases of infectious sinusitis are primarily cases of allergic nasal disease, with secondary infections started by swelling and blockage.

It is our belief, based on reports from others, that our results are possibly too good in terms of



percentage of cases relieved. These twenty cases are the only ones we have adequately studied, and it is apparent, from these that an appreciable percentage of patients suffering with allergic sinusitis should get some relief. We are unable, ourselves, to differentiate clearly between the many different types of nasal disease, described as allergic rhinitis, hyperesthetic rhinitis, vasomotor rhinitis, atrophic rhinitis, hypertrophic rhinitis, etc. Furthermore, we cannot at present predict the cases in which potassium chloride will be effective.

#### CASE REPORTS

The following brief case resumes represent our best results:

*Case 1.* Female, aged 29 years. Three years before she had developed acute severe sinusitis in California during a heavy "smudging" season. Bilateral otitis media followed. The patient continued for three years to have more or less regular nose and throat treatment for her sinusitis, which was manifested by chronic nasal discharge and some mild frontal pain. Removal to Tucson produced perhaps 25% benefit. The patient came in for a general check-up examination, and the potassium chloride was given more as an experiment than with any real hope of affecting the sinusitis. Within a week this patient was almost entirely free of nasal symptoms and this improvement has continued since. She takes the potassium chloride as needed, and may go as long as a week without the necessity for taking any. This patient has returned to the Pacific Coast, and when last heard from had practically no nasal symptoms. It may be noted that this woman, who had always suffered intensely from menstrual pain, often requiring one dose of morphine, has menstruated perfectly normally since she first received potassium chloride four months ago. This possible relationship requires further study. We had not suspected allergy in this individual, but after obtaining such a satisfactory result, we performed skin tests and found many positive reactions.

*Case 2.* Female, aged 35 years. For the past five years this patient had had "colds" and "sinusitis" with antral pain occurring about every three weeks from November to May, so that she suffered practically continuously from sinusitis all winter. Following her first winter cold in November, 1938, she was given potassium chloride to be taken whenever her nose seemed to be blocking up, and had no more colds during the entire winter. This patient, too, who has always had rather severe dysmenorrhea, noted that during this winter her menstrual discomfort was at least 50% less than before. Allergy studies were not done in this case. She gave a history of having had hives.

*Case 3.* Female, aged 36 years. For the past five years or more this patient has been a daily user of benzedrine, ephedrine drops, etc., for relief of chronic sinusitis, which gave frequent antral pain, and at times frontal pain severe enough to produce vomiting. Potassium chloride gives this patient relief from pain in three minutes. Since it was begun she has had no severe attacks, and may go for as long as a week at a time without having any symptoms. Only on one occasion did potassium chloride fail to give its usual striking relief; this occurred during a superimposed respiratory infection, during which the potassium chloride was only slightly effective. This patient develops angioneurotic edema from cheese. No skin tests were done.

*Case 4.* Female, aged 39 years. During several months of nearby street paving, this patient suf-

fered intensely from rhinorrhea, stuffy feeling in the head, and some headaches. Her symptoms were so severe that she had to sit upright in bed all night, and even so obtained very little sleep for many weeks. Potassium chloride was started, and within three days this patient's nose was clear and she was sleeping through the whole night without elevation by pillows. This patient gave a history of having hives from certain foods. No skin tests were done, but it is likely that this patient had a severe case of dust sensitivity, relieved rather dramatically by potassium chloride.

TABLE I

	Improved	Unimproved
Hay fever .....	48	4
Hay fever and pollen asthma .....	7	2
Chronic allergic sinusitis .....	13	7
Nasal mucous polyps .....	4	3
Chronic asthma .....	2	27
Acute urticaria .....	7	1
Chronic urticaria .....	2	1
Angioneurotic edema .....	2	0
Chronic eczema .....	5	3
Migraine .....	2	6

[The above table summarizes the cases reported in the scientific exhibit of the A.M.A. at St. Louis, May 15-19, 1939. (Potassium in Hay Fever, by Benson Bloom, C. S. Kibler and S. J. Grauman)]

#### Nasal Mucous Polyps—

Of seven patients with nasal mucous polyps, a definite decrease in the size of the polyps was produced in four by potassium chloride. In one of these the need for imminent polypectomy has been completely obviated. In two other, surgical removal of polyps was done, even though a definitely beneficial effect had been produced by potassium. In the other three cases, no effect at all was produced.

#### Asthma—

In two cases of *status asthmaticus* symptoms were clearly aggravated by a small dose of potassium chloride. In three other cases of chronic asthma it was apparent that potassium chloride increased, rather than relieved, the asthma. In two patients only did we feel that potassium chloride was of distinct help, while in the remainder of our group of 29 cases no appreciable effect was produced. In general, therefore, it would seem that potassium chloride is of no benefit in most cases of chronic asthma, and it is our tentative opinion that it should not be used except in a truly experimental manner with close supervision and observation. In a small number of cases of pollen asthma we have ourselves observed no untoward reaction. That the problem may be different in some children, with whom we have had no experience, is indicated by reports from two pediatricians who tell us that aggravation of pollen asthma or the appearance of asthma in children with pollen hay fever has taken place. For the time being we urge that if potassium chloride is used in cases of asthma, great caution be observed.

#### Urticaria—

Seven cases of acute urticaria have responded quickly to potassium chloride. In one case there was no response. We have only had three cases of chronic urticaria two of which responded well, in the other case no response at all was obtained. This latter patient continues to have more or less continuous urticaria. In one patient who develops a severe urticaria from chocolate, the administra-

tion of potassium chloride before the eating of chocolate prevents the occurrence of urticaria.

#### *Angioneurotic Edema—*

In two patients, in each of whom there is a clear-cut reaction to such foods as cheese, chocolate, tomatoes, etc., we have found that the preliminary administration of small doses of potassium chloride eliminates the development of angioneurotic edema. Once the angioneurotic edema has developed, however, the relief obtained by potassium chloride is not striking.

#### *Eczema—*

In five of a group of nine patients with various types of chronic eczema, definite benefit seemed to have followed the administration of potassium chloride. In the other four, no effect at all was produced. All of these cases were apparently examples of atopic dermatitis. Our general impression is that the chronic, more severe, type of case does not respond.

#### *Migraine—*

In only two cases in a series of eight was migraine relieved by potassium chloride. Both of these seemed to be typical examples of migraine. Since the majority of workers agree that migraine or "migraine like headaches" are often on an allergic basis we have included this disease in our study.

### DISCUSSION

In this study it has been shown that the symptoms of various diseases generally considered to be allergic respond, in many instances, to the oral administration of small doses of potassium salts, as is shown in the accompanying table. There are, likewise, many instances of failure. On the basis of such a small series of cases it is impossible to attempt an accurate evaluation of the results. From letters and verbal reports from many others who have tried this simple therapeutic measure, it would seem that our results are, in general, approximately correct. Reports vary considerably, from complete failure, particularly in urticaria and hay fever, to a degree of greater success than we have obtained. In this report it is intended only to indicate the types of allergic diseases in which some response has been obtained in order that others may give this method a much more extensive trial. In the previous report<sup>1</sup> it was suggested that "allergy is predominantly a disturbance of electrolyte metabolism," and recent work tends to confirm the idea that in allergy we are dealing with a diffuse disturbance of electrolytes. The paper of Stoesser and Cook<sup>4</sup> indicates that in the chronic asthma of children, hyperpyrexia, after maintaining the patient on a low sodium chloride diet, is much more effective than hyperpyrexia induced while the patient is on a normal diet. These workers also showed that, in the children studied, the administration of potassium chloride aggravated the asthma, but that complete clearing of the asthma occurred immediately after discontinuance of the potassium chloride. Sheldon and Howes<sup>5</sup> demonstrated that during asthma induced by in-

halation of ragweed pollen there was an increased excretion of the sodium ion. In the paper to be published shortly by Rusk, Weichselbaum and Somogyi,<sup>6</sup> it is shown that the serum potassium level is elevated during urticaria and bronchial asthma and that concomitant with the return of the blood potassium level to normal, as for example may occur following the use of insulin or glucose, or both, there is a disappearance of clinical symptoms. These observations lend much support to the concept that electrolytes play a fundamental role in allergy. It is, of course, impossible at present to say whether electrolyte changes are secondary to the allergic state or whether it is an essential abnormality of electrolyte metabolism that permits the allergic state to develop. That the latter hypothesis is correct seems likely, particularly in view of our food sensitivity cases, in which the expected allergic reaction can be prevented by the preliminary administration of potassium chloride. Should this hypothesis become established it would then appear that the proteins, about which practically all the studies in allergy have centered, are significant only as substances which evoke symptoms when the underlying electrolyte mechanisms of the body are altered. It is important to distinguish between (a) the intricate immune mechanisms in the body which come into play after the entrance of a protein allergenic substance and (b) the alterations of electrolyte balance. We suggest, as a working hypothesis, that when the electrolyte balance is normal allergic manifestations do not appear. From a therapeutic point of view each of these two approaches to the problem yields some degree of success, and each should be considered an adjunct to the other in therapy.

With regard to the contraindications, it is obvious that potassium should not be used in cases of Addison's Disease. We have also suggested the theoretical possibility that potassium might be harmful in some cases of disturbed renal or cardiac function, and would suggest, tentatively, that allergic individuals with these complications be not treated with potassium. So far we have had no actual experiences with these complications. In view of a few untoward reactions in asthma we feel that potassium should not be generally used for chronic asthma, particularly so for status asthmaticus. In pollen asthma of adults we recommend its use but advise caution. In the treatment of pollenosis of children we recommend even greater care until further studies have been made. With regard to the side-effects, the occasional occurrence of mild diuresis, rare diarrhea, and slight rhinorrhea must be mentioned. Ordinarily these are not at all troublesome. Gastro-intestinal pain is readily avoided by administering potassium chloride in a dilute aqueous solution, e. g., 10 grains in a glass of water.

The dosage varies considerably. In some of the severe hay fever patients we have found it necessary to give 10 grains six times a day. Some of the sinusitis cases require only 5 grains three times a



day. In other instances such as simple food sensitivity, a single 5-grain dose may be all that is necessary. The maximum we have given has been 80 grains a day. Although other potassium salts, such as potassium bicarbonate, have been used, with apparently similar results; most of these cases have been treated with the chloride of potassium. We have not used potassium iodide in these studies (except in a few of the chronic asthma cases).

#### COMMENT

In this paper the clinical results obtained by this new and simple method for the treatment of various allergic conditions are presented. This represents a departure from the usual types of approach to the problems of allergy. The results so far are encouraging and support the belief that further studies in this direction will lead to a more satisfactory answer to the numerous problems involved. Should this hypothesis, that allergy is predominantly a disturbance of electrolyte metabolism, be established it would then seem reasonable in view of our increasing knowledge of the relationship between electrolytes and the endocrines, that an endocrine basis for allergy might be determined. Somewhere in this complex relationship between proteins, electrolytes and endocrines there must also be considered the role played by the vegetative nervous system.

#### SUMMARY

(1) In the diseases commonly considered to be allergic, favorable responses have been obtained, in many instances, by a new and simple therapeutic measure, the oral administration of potassium chloride.

(2) The best results have been obtained in the simple acute allergic diseases.

(3) In chronic asthma this treatment has so far been practically valueless.

(4) The side-effects and contraindications in this type of therapy are discussed.

(5) A new concept of allergy, i. e., that allergy results from a faulty metabolism of electrolytes, is presented.

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## Treatment of Scoliosis with Bone Traction

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ONE year ago we presented a preliminary report at the New Mexico State Medical Meeting on "Bone Traction for the Treatment of Scoliosis." The two cases reported at that time were interesting from the standpoint of mechanics and in providing another adventure into the field of bone traction. One patient, sixteen years of age, received the treatment outlined by us. The curvature in this particular case was very mild. This patient showed good results from this method of bone traction. There was no pain during traction, no neurological symptoms developed. The second case reported was a patient ten years of age, and further study of this case leads us to the conclusion that this method is not adaptable to one as young as ten years of age because there is not sufficient ossification of the spinous processes to permit the needed traction. The scoliosis, however, was less after the application of traction. There was no increase in rotation, the patient experienced no pain from the wires and no neurological symptoms developed dur-

ing traction. Having gained this little experience with bone traction on mild cases it was thought that it would be safe to apply the method to more severe cases of scoliosis in an attempt to determine its value, if any. Consequently, cases were selected for correction which were in the age group of about fourteen years of age, and which had rather severe deformities of the spine.

#### GENERAL CONSIDERATIONS

Scoliosis is a curvature to the side of the spine which, in reality, is a rotating lateral curvature. As to etiology, the causes of scoliosis are many and varied, beginning with congenital anomalies of the vertebrae and nutritional, idiopathic, postural, and post-poliomyelitic disturbances. Those scolioses resulting from infantile paralysis are by far in the greatest majority at the Carrie Tingley Hospital, all the operated cases to date having been post-poliomyelitic. In certain other clinics the idiopathic scoliosis seemed to be the most common.

Scoliosis due to poliomyelitis usually results from the loss of musculature on one or both sides and, consequently, there may be an unopposed muscle pull on one side, or no supporting musculature at all. Following paralysis of the muscles of the back

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the vertebrae soon begin to change their original position until the growth of the vertebral bodies ceases. As they rotate and assume a different position the stress and strain on the vertebrae is likewise changed. This, if neglected, results in definite bony changes; that is, wedging of bodies, changes in the vertebral canal and marked effect on the articulating facets. So it is important to see these cases early. As the scoliosis progresses many other changes take place. If the dorsal region is involved the chest cage may be altered in shape. The position of the great vessels and heart may also be altered, giving rise to certain cardiac symptoms. If the lower dorsal and lumbar regions are involved, certain displacements and changes are bound to occur in the abdomen. If the deformity becomes sufficiently great there may be sensory changes in the area of the greatest concavity.

The symptoms are varied; such as pain, which may precede or follow deformity; weakness; fatigue; awkwardness; and in extreme cases patients may fall easily, due to postural imbalance, and there may be respiratory, cardiac or neurological symptoms.

The diagnosis is easily made by physical examination and roentgenography.

#### PRESENT TECHNIQUE

Since our preliminary report we have changed our technique slightly. The present routine is as follows: The usual physical examination and history are obtained. The patient is sent to the physiotherapy department for complete muscle test, and measuring of the height in the sitting and standing positions. The patient is x-rayed in the standing position. He is also x-rayed in the seated position with the buttock elevated on the side of the lumbar convexity. This enables us to ascertain how much correction the patient can maintain with the remaining muscle power. These data indicate how far the surgical fusion should be extended downward. The extent of the fusion upward is determined after the wedging with the plaster has been completed. The primary curvature is then identified. The patient is sent to the physiotherapy department for suspension by the head and shoulders until he is able to suspend a sufficient length of time to have a body wedging cast applied. The arm on the side of the concavity is abducted and incorporated with the body plaster. With the arm included in the cast in this manner there is less irritation to the skin in the axilla from the edge of the cast than in any other method we know. The thigh on the opposite side is usually incorporated in the body plaster. During its application an anterior and posterior hinge are incorporated in the body cast. The hinges are placed opposite the point of greatest curvature of the deformity. When the cast has hardened it is cut around the body at the level of the movable portion of the hinges. A turnbuckle is placed on the side of the concavity. The wedging now begins and is continued until all correction possible is obtained. Some patients have required

many wedging casts. Others have required only one. When it is felt that the cast will no longer correct the curvature more plaster is applied, so that the correction is maintained. At this time a special apparatus is incorporated in the plaster on the side of the convexity, which we call a "pusher." A large window is now made over the vertebrae to be operated and fused. It is important to identify the vertebrae during surgery, because it is very necessary that only the vertebrae making up the primary curvature be fused. Consequently, a spinous process is located and a line of gentian violet is made across this spinous process. A wire is then placed over the gentian violet line and a roentgenogram is made. In this manner the vertebrae may be identified after exposure during surgery. The usual Hibbs fusion is carried out. Not more than six vertebrae are fused at a time. In this way the least amount of shock is experienced by the patient. In most cases it has been necessary to remove additional bone for grafts from the tibia. The spinous processes of the three vertebrae making up the apex of the curvature are not used for bone chips. It is to these three spinous processes that we attach the wires. A groove is made about their bases. An aneurism needle is passed through the skin and musculature on the side of the back in the posterior axillary line. The needle is forced toward the incision. The two ends of twenty gauge, pliable, stainless steel wire are threaded into the needle and pulled through the soft tissues. This wire is planted in the groove around the spinous process. The wire is now pulled through the soft tissues and skin and continued through drill holes on the side of the plaster of Paris cast. The wires are attached to a special apparatus which will cause traction when the wires are twisted. The incision is now closed in the usual manner. The wires are tightened daily until correction has been completed or until such time that it is felt that traction should be discontinued. We feel that all correction possible should be obtained within the first three weeks after surgery. After three weeks the grafts will begin to solidify. When all possible correction is obtained the wires are no longer tightened but are permitted to remain in place until bony ankylosis occurs. As soon as the patient's condition will permit, the remaining vertebrae making up the primary curvature are also fused. The patient remains in plaster three months after the last operation and is then supported with corsets for an additional twelve months.

#### CASE REPORTS

To date six cases have been operated. We herewith report the last four cases:

Case I.—R. T., White male. At the age of twelve years admitted to the Carrie Tingley Hospital with severe left dorso-lumbar curvature. The apex of the curvature is the first lumbar vertebra. (Figures 4, 5, 6.) The angle of the deformity was 54 degrees. After thorough study it was decided that spinal fusion offered the best treatment. The patient was suspended daily by the head and arms until he could stay in the suspended position long





Fig. 1. L. C.

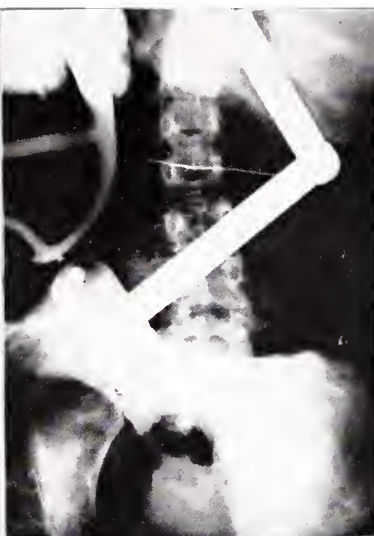


Fig. 2. L. C.



Fig. 3. L. C.



Fig. 4. R. T.



Fig. 5. R. T.



Fig. 6. R. T.

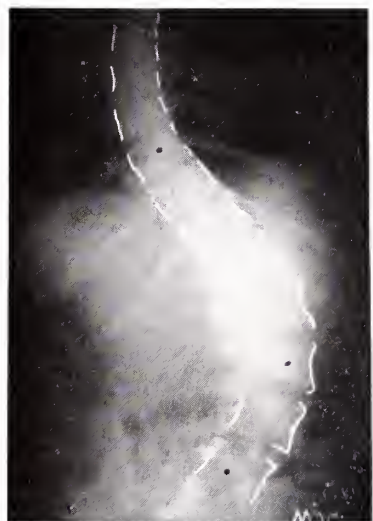


Fig. 7. M. V.



Fig. 8. M. V.



Fig. 9. M. V.

enough for the application of a body wedging cast. The primary curvature extended from the eighth dorsal to the fifth lumbar vertebra. On October 31, 1938 a wedging body plaster cast was applied. The right arm and left thigh were incorporated in the cast. An anterior and posterior hinge were placed in the plaster at the apex of the curvature. The cast was cut through and a turnbuckle applied, so as to wedge the plaster. Daily wedgings finally showed good correction, but not entirely sufficient. The patient was then prepared for surgery. December 8, 1938 the first fusion was done, extending from the twelfth dorsal vertebra down to and including the fourth lumbar vertebra. The wires were placed around the spinous process of the twelfth dorsal vertebra and the first and second lumbar vertebrae. These wires were tightened often and results checked following traction. Nine weeks later the second fusion was done. This included the ninth, tenth and eleventh dorsal vertebrae. The end results are as follows:

Angle of deformity—54 degrees.  
Correction—50 degrees.  
Percentage of correction—91%.

Case II.—L. C. White female, age twenty years. Entered the Carrie Tingley Hospital with a diagnosis of post-poliomyelitic scoliosis in the dorso-lumbar region. The convexity was to the left. The apex of the scoliosis was in the region of the second lumbar vertebra. (Figures 1, 2, 3.) The primary curvature extended from the eighth dorsal vertebrae to and including the fourth lumbar vertebra. The angle of the deformity was 53 degrees. The patient was suspended daily and a body cast applied. Because of dissatisfaction with the results obtained the patient was continually wedged and a total of four body casts applied. Roentgenograms at this time showed fair results. The patient was prepared for surgery and a "pusher" was then incorporated in the plaster of Paris cast. A modified Hibbs fusion was done January 5, 1939, including the eleventh and twelfth dorsal vertebrae and the first, second, third and fourth lumbar vertebrae. Wires were attached to the spinous processes of the tenth, eleventh and twelfth dorsal vertebrae. Traction was applied daily. On January 31, 1939, roentgenograms showed almost complete correction of the scoliosis. Eight weeks later the eighth, ninth, tenth and eleventh dorsal vertebrae were fused. The difficulty in correcting this patient's curvature with casts was attributed to her age and the fact that she had an apparently fixed vertebral column. The end results are as follows:

Angle of deformity—53 degrees  
Correction—less than 4 degrees  
Total correction—about 93%

Case III.—M. S. V. Female patient, age eighteen years. She entered the Carrie Tingley Hospital with the history of never having walked because of residual poliomyelitis. The patient had a severe dorso-lumbar curvature. (Figures 7, 8, 9.) The primary curvature extended from the tenth dorsal vertebra to and including the fifth lumbar vertebra.

The apex was in the region of the third lumbar vertebra. The angle of the deformity was 60 degrees. The patient was suspended by the head and arms until she was able to have a body plaster applied in the manner described above. A second body plaster was required before good correction of the curvature was obtained. On December 8, 1938 the patient was prepared for surgery and a Hibbs fusion was done, supplemented by bone chips from the tibia. Wires were placed around the spinous processes of the twelfth dorsal vertebra and the first and second lumbar vertebrae. A second fusion was done March 2, 1939, which included the tenth, eleventh and twelfth dorsal vertebrae. Three weeks from the date of surgery x-rays showed almost complete correction of the dorso-lumbar scoliosis, and results are as follows:

Angle of deformity—60 degrees  
Correction to 8 degrees  
Total correction—89 plus

Case IV.—I. S. Female patient, age twenty. She entered the Carrie Tingley Hospital with a diagnosis of post-poliomyelitic scoliosis in the dorso-lumbar region, with the convexity to the right. The primary curve extended from the fifth dorsal vertebra to include the fourth lumbar vertebra. The angle of deformity is approximately 115 degrees. The patient was suspended daily by the head and shoulders and a body plaster cast applied as described. Because of the patient's extreme curvature and kyphosis, the wedging was very slow. The patient was wedged daily for four months and when no more correction could be obtained with plaster, the patient was prepared for surgery and a pusher was incorporated in the cast. A modified Hibbs fusion was done on April 13, 1939, including the seventh dorsal vertebra to the first lumbar vertebra. Wires were attached to the spines of the ninth, tenth, and eleventh dorsal vertebra. Daily traction finally showed a correction of the deformity to approximately 45 degrees. The continuation of the fusion has not been carried out.

Angle of deformity—115 degrees  
Correction—45 degrees  
Total correction—71%

Due to this patient's age and extreme deformity, this correction is very good since the usual procedure is to fuse the patient when all correction with plaster casts has been gained which in this case was to 93 degrees. With bone traction more than 50% of the deformity was corrected. To date none of the four cases reported have had the casts removed, but since the primary curves have been solidly fused, the final outcome should be gratifying. Many orthopedists feel that up to 50% correction is excellent, especially in the severe scoliotics, and here are three cases which give almost complete correction. The usual loss of ten to twenty degrees that occurs after permitting patients to be up and about is thought to be due to the bone not being mature. This may also be the result of not completely correcting the curvature; consequently, it would seem possible that the loss may not be so great as in those cases not completely corrected.

There has been some discussion as to the possibility of increasing the rotation by applying bone traction to the spinous processes. As seen in these cases, the rotation did not increase. In reality, decreased it, as demonstrated in the illustrations shown.

- Fig. 1.—L. C. On admission to the hospital.  
Fig. 2.—L. C. After wedging plaster and pushing apparatus were applied. Note correction is not complete.  
Fig. 3.—L. C. Almost complete correction after bone traction and spinal fusion.  
Fig. 4.—R. T. Shows rather severe dorso-lumbar curvature on admission to the hospital.  
Fig. 5.—R. T. After wedging cast and pusher were applied. Note curvature not completely corrected.  
Fig. 6.—R. T. Shows curvature almost completely corrected. The curvature existing above is the result of the position in the cast, and is not part of the original curvature.  
Fig. 7.—M. V. Shows severe dorso-lumbar curvature on admission to the hospital.  
Fig. 8.—M. V. Shows curvature after wedging plaster and pusher were applied. Note curvature not completely corrected.  
Fig. 9.—M. V. Shows curvature almost completely corrected.





Fig. 10. I. S.



Fig. 11. I. S.

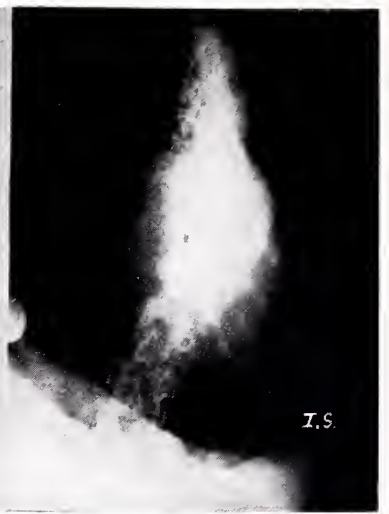


Fig. 12. I. S.



Fig. 13.



Fig. 14.



Fig. 15.



Fig. 16.



Fig. 17.



Fig. 18.

Fig. 10.—I. S. Shows condition of spine on admission to the hospital.

Fig. 11.—I. S. Shows spine after all correction possible with usual wedging apparatus.

Fig. 12.—I. S. Shows spine after bone traction.

Fig. 13.—Shows patient in suspension before application of wedging jacket.

Fig. 14.—Anterior view of plaster immediately after its application.

Fig. 15.—Shows posterior view immediately after application of plaster.

Fig. 16.—Shows patient in wedging cast after surgery has been completed. Wires still applied. Note the pushing apparatus in place.

Fig. 17.—Same as Fig. 13. During wedging procedure.

Fig. 18.—Shows that the patient's body is pulled from the side of the cast on the side of the convexity about 2½ inches in two days, pusher in place. As the pusher is screwed in, the space between the skin and the cast is obliterated, preventing the patient from being suspended in the cast by the wires.

### COMMENT

As is seen by the above cases, the results are extremely promising.

### SUMMARY

A total of six cases of scoliosis have been treated with bone traction. Apparently the ideal age for this type of treatment in curvature of the spine is about fourteen years. Bone traction does not increase rotation and the patient does not experience any discomfort during the use of this treatment. All cases receiving this type of traction in the treat-

ment of scoliosis have been improved after the wedging jacket has exerted its maximum effect. The routine followed for treatment of scoliosis is reviewed. Not only has traction on the spinous processes not increased rotation, but has corrected a part of the already existing rotation of the bodies of the vertebrae.

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## Recent Advances in Therapy of Pneumonia\*

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THIS discussion will emphasize first, results of the treatment of the higher types of pneumococcus pneumonia with specific serum, and second, the effect of sulfapyridine on all types of pneumococcus pneumonia. Before considering these, brief mention should be made of important features in the routine treatment of pneumonia as carried out at the Los Angeles County Hospital. The diet should be high in caloric value and contain a supplement of Vitamin C. Approximately 3000 c.c. of fluid are needed daily and an adequate intake of salt should be provided, since with pneumonia there is a loss of chloride and damage to the adrenal glands which control salt and water metabolism. At the County Hospital 6 grams of salt daily are routinely prescribed in tablet form. Since this has been done the incidence of distention as a complication has been markedly lessened. Oxygen is routinely administered in the presence of a respiratory rate over 36, a pulse rate over 120, cyanosis or distention. It is important to give oxygen continuously, if given at all. If used intermittently it is similar to moving the patient down from a high altitude to sea level for a few hours and then returning him again. The adaptation which the patient must make, while undergoing these changes, is obviously harmful rather than helpful. We have found that a convenient and economical way of administering

oxygen is through the Lombard face mask. Such a mask will raise the percentage of oxygen in alveolar air to 40% if oxygen is given at a rate of 6 liters per minute. The rate should be regulated so that the patient is comfortable and relieved of cyanosis if possible. Pleurisy is treated with strapping, and if severe with codeine, never morphine. Saline expectorants are routinely provided to keep the cough loose. Distention is treated with Prostigmine and hypertonic saline. Pulmonary edema may sometimes be overcome with hypertonic glucose or sucrose. Digitalis is never used routinely but only for congestive failure. If auricular fibrillation develops quinidine is the drug of choice.

### SERUM THERAPY

It was demonstrated first by Cole in 1913 that specific serum was effective against type I. pneumococcus infection. With the subsequent use of more concentrated serum in 1924, as developed by Felton, these results were confirmed, and it is now generally accepted that specific serum is effective against both pneumococcus types I. and II. A study of large series in Boston and New York definitely shows a reduction in mortality from 25% or 30% to 10% in type I. infection, and from 45% to 25% in type II. infection. Since 1936, when Horsfall and Goodner introduced the use of rabbit serum, it has become practicable to use specific serum in the higher types of pneumonia and there is growing evidence that serum is as equally effective in the higher types as in types I. and II. The past year we have had sera available for practically every type. It should be

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noted that this series includes all cases of pneumococcus pneumonia and is not limited to patients showing lobar consolidation. We feel it is more important to classify and treat pneumonia according to its etiology than according to distribution of the consolidation. At present it is impossible to ascertain the relative effectiveness of serum of a particular type in our series because the number of any one particular type is statistically too small. However, if all the higher types are grouped together, the results are encouraging.

Table 1. shows the general results of therapy the first part of this year. You will note that only five of one hundred and fifteen patients were untyped. This represents close cooperation of the nursing service and laboratory. All patients showing types I. and II. (twenty-four of which were type I.) received serum with three deaths or a mortality of 10%. This compares favorably with results in New York and Boston. Of 80 patients showing higher types 56 received serum with 9 deaths or 14% mortality. This also compares favorably with results obtained by Bullowa, who finds a mortality of 8% in a series of 257 patients receiving adequate serum therapy as contrasted with a 24% mortality in an untreated group. Twenty-four patients, 9 of whom died, (giving a mortality of 38%) did not receive serum. These cannot be used as a control group for reasons which will be brought out later. An idea of the untreated mortality can be gained from statistics of previous years which show a rate varying from 20 to 30%. Thus last year the mortality in cases treated with serum was 15% while that of the untreated cases was 22%.

Table 2. shows the distribution of the higher types of pneumococcus pneumonia. The incidence of bacteremia as shown represents only an initial culture. The true incidence can be obtained only by daily cultures on the very sick. It will be noted that except for type I., type VII. is the most frequent cause of pneumococcus pneumonia in Los Angeles. This is in contrast to statistics in the east where in New York City type VII. ranks sixth according to Bullowa. We have made this same observation in previous years.

Table 3. shows the value of early serum therapy. Thus of 31 patients treated on or before the 5th day of the disease only two deaths occurred giving a mortality rate of 6%.

Table 4. summarizes the patients not receiving serum. This group for obvious reasons does not represent a control.

Table 5. presents an analysis of the nine deaths of patients treated with serum. Most of these occurred in the older age group and in only three was serum begun before the fifth day of illness. One patient should probably be excluded as he died of coronary occlusion after clinical recovery from pneumonia.

In addition to this effect on mortality, specific serum also has a definite clinical effect which can be seen repeatedly in case after case. Thus, patients

treated with specific serum show less tendency to blood invasion, and less tendency toward extension of the pneumonia. Also, soon after serum is given, the patient feels much improved, and a dramatic decrease in fever, pulse rate, and respiratory rate occurs. Some occasionally show a secondary rise of fever which is usually less than the original level, but the disease then runs a milder course even though no further serum is given. Consequently we feel that it is advisable for every patient with pneumococcus pneumonia to receive specific serum. Often the patient may have a relatively mild disease for several days, only to have more severe manifestations later. If serum is withheld until such complications appear it is no longer as effective as if employed early, and furthermore much larger doses of sera are necessary when it is begun late in the disease. Successful serum therapy entails close attention to a number of important details. In the first place lobar pneumonia must be considered as a medical emergency and every effort made to early ascertain the specific organism which is responsible for the infection. Immediately on entry to the hospital sputum is sent to the laboratory for typing by the Neufeld reaction, and a blood culture is taken. If no sputum is available material is obtained for typing from the larynx. Sputum and material from the larynx are always rechecked to insure accuracy. This is important because certain pneumococci, namely: types III, IV, VI, X and XVIII may be found inhabiting the upper respiratory tract quite often when they are not responsible for the clinical condition. If no organisms can be obtained from the sputum or larynx, lung suction or puncture is resorted to in patients with clear-cut consolidation. A spinal puncture needle is introduced under local anesthesia over the area of consolidation and a small amount of lung juice aspirated and cultured. By these means we are successfully able to type 96% of our patients. Because time is so important in serum therapy all efforts should be made to type patients as quickly as possible. After this is done serum therapy is promptly begun if the appropriate sensitivity tests are negative. It is important to use adequate amounts of serum during the first 24 hours of treatment. Usually 100,000 units are sufficient in early uncomplicated cases. In patients treated after the third day, or with more than one lobe involved, or with bacteremia, or over 50 years of age, at least 200,000 units are usually necessary. Serum is usually administered and given intravenously as follows: 10,000 units followed at 2 to 4 hour intervals by 40,000 unit doses until the temperature and pulse fall to normal. We have not found agglutination tests of the blood to be of much clinical value in deciding if adequate amounts of serum have been given. Failure of a patient to respond calls for complete bacteriologic restudy. This past year most of our patients have received rabbit serum instead of horse serum. This can be prepared more rapidly than horse serum and can be made more concentrated.

Occasionally thermal reactions occur with its use but these may be often prevented by the administration of 15 grs. of acetylsalicylic acid before giving the serum. Ordinarily fewer reactions are experienced if the serum is given undiluted. In sensitive individuals we have been able to administer serum without reaction by first giving  $\frac{1}{2}$  c.c. 1-1000 epinephrine, following it in six minutes by the administration of serum diluted in saline.

**Summary of Serum Therapy:** In summary then success in treatment of pneumococcus pneumonia with serum depends first on early etiological diagnosis and second on the administration of adequate amounts of specific serum especially during the first 24 hours of treatment.

#### SULFAPYRIDINE.

You are doubtless interested in sulfapyridine, the sulfanilamide derivative, which only recently has been made commercially available and has been commented on favorably both in England and the United States. Sulfapyridine was introduced in England under the trade name of M and B 693. Experimentally and clinically it has been found effective in infections with pneumococcus, hemolytic streptococcus, meningococcus, staphylococcus, and

Friedlander's bacillus. Several favorable reports have appeared in the American literature recently, but caution has been rightly advised against giving up proven therapeutic measures too hastily. No adequately controlled series on the use of sulfapyridine in pneumococcus pneumonia has yet been reported. Since January of this year we have been studying a series of cases treated with sulfapyridine as compared with an alternate series treated with serum. Cases are matched as much as possible not only as to the same type, but as to age group and duration of illness. As yet there are too few cases to be statistically significant, but it appears that it may be just as valuable in pneumococcus infections as sulfanilamide has proven in infections with hemolytic streptococci.

Table 6 illustrates our results to the present which covers a period of six weeks. Thus of 50 patients receiving sulfapyridine 2 died, giving a mortality of 4%, whereas 6 of 34 patients receiving serum died giving a mortality of 18%. Three patients received combined therapy consisting of serum followed by sulfapyridine. One with type III. infection showed no response to 300,000 units of serum but a good response to sulfapyridine. Another with

Table 1. Cases of pneumococcus pneumonia treated from July 8, 1938 to January 22, 1939.

Total Cases	115
Cases typed	110
Number Types I and II all serum treated	30
Deaths	3
Mortality	10%
Number Types III to XXXII	80
Serum treated	56
Deaths	9
Mortality	14%
Non-serum treated	24
Deaths	9

Table 2. Analysis of group of higher types of pneumococcus pneumonia receiving serum.

Type	Cases	Bacteremia	Deaths
3	5	0	1
4	6	0	0
5	4	0	1
6	2	0	1
7	15	1	3
8	6	1	0
9	2	0	0
12	2	1	1
14	2	0	0
17	1	0	1
18	3	1	0
19	1	0	0
20	2	0	0
31	1	0	0
3 & 4	1	0	1
3 & 20	1	0	0
7 & 8	1	0	0
7 & 24	1	0	0
Total	56	4	9

Table 3. Analysis of cases of higher types of pneumococcus pneumonia according to day of illness on which specific serum was begun.

Day	Cases	Deaths
1	1	0
2	9	0
3	8	0
4	5	1
5	8	1
6	8	1
7	3	1
8	3	0
9	2	1
10	1	0
12	1	1
14	1	1
15	2	1

Table 4. Analysis of group of higher types pneumococcus pneumonia not receiving serum.

Reason	Cases	Deaths
Moribund	5	5
No serum available	4	0
Not typed	5	2
Treated with sulfapyridine	6	1
Spontaneous crisis	3	
Morone	1	1
Total	24	9

Table 5. Analysis of deaths of cases of higher types pneumococcus pneumonia receiving serum.

Type	Age	Days before Serum	Lobes involved	Bacteremia	Degree of Illness	Contributing factors	Units of Serum
3	53	12	1	0	xxxx	As. heart disease	700,000
5	65	6	Bilat. Br. Pn.	0	xxx	As. heart disease	160,000
6	26	9	1	0	xxxx		400,000
7	67	14	2	0	xxx		440,000
7	39	4	3	0	xxx	Alcoholic. Bronchial asthma	460,000
7	55	6	1	x	xxxx	Alcoholic	300,000
12	35	7	2	x	xxxx	Alcoholic	300,000
17	63	4	3	0	xxx	Coronary occlusion after recovery from pneumonia	400,000
3 & 4	51	3	3	0	xxxx		500,000 III. 180,000 IV.

Table 6. Comparison of cases treated with serum and sulfapyridine from February 10 to March 24, 1939.

Type	Serum Cases	Serum Deaths	Sulfapyridine Cases	Sulfapyridine Deaths
1	8	1	10	0
2	4	0	6	0
3	7	3	9	1
4 to 32	15	2 (types X. and XIX.)	25	1 (type XI.)
Total	34	6	50	2
Mortality		18%		4%

Table 7. Analysis of deaths of cases receiving Sulfapyridine for over 12 hours.

Type	Age	Lobes involved	Bacteremia	Day before treatment	Dosage
3	58	3	x	7	32 gm.
11	43	1	o	4	17 gm.
2	57	3	x	4	500,000 U. 30 gm.



type VII infection responded to serum only to have a relapse a week later which was successfully treated with sulfapyridine. The third patient with type II pneumococcus pneumonia responded neither to serum nor sulfapyridine.

Table 7 shows an analysis of the deaths in patients receiving sulfapyridine. The third patient shown was one of those receiving combined therapy.

Although, as stated before, our series is not large enough to be of statistical value, here again as in individual cases treated with serum, dramatic effects are often noted. Patients have been seen with pulmonary edema who are almost moribund who have responded dramatically to sulfapyridine. Clinically the fever usually falls within 24 hours though the pneumonia signs persist for several days. A clinical record of a patient showing a typical response is shown in Figure 1. Not all patients show this dramatic picture and we have occasionally observed a pneumonic spread while patients were receiving sulfapyridine. Apparently some strains of pneumococci are resistant to the drug. Patients receiving sulfapyridine do not have the same sense of well being that those receiving serum do. This might well be expected inasmuch as the two types of treatment act in such different ways. Frequently patients on sulfapyridine are quite ill from the effects of the drug which is apt to cause nausea and vomiting and depression. All the toxic effects seen with sulfanilamide have been reported from sulfapyridine, though as yet we have seen no severe reactions. Some of the more serious reactions reported are hematuria, hemolytic anemia, agranulocytosis and acute yellow atrophy of the liver. We have been able to lessen the nausea by administering

the drug in a powdered form mixed with milk or fruit juice and accompanied by equal amounts of sodium bicarbonate. The patient is instructed to sip this mixture over a period of time. The dosage we have employed has been 2 grams as an initial dose followed by 1 gram every 4 hours until 25 grams are given, then 1 gram every 6 hours for two days. The average dose given has been 28 grams, with a minimum of 13 grams and a maximum of 53 grams having been given. Ordinarily the drug is discontinued only after the temperature remains normal for four days. Complete blood counts are made every other day, and if a drop of 20% hemoglobin or marked leukopenia occurs the drug is discontinued. It is also stopped if jaundice rapidly appears, if intractable emesis is present, if dermatitis develops or if an abnormally low temperature or marked apathy appears. Results similar to these are being found all over the country, and unless it is found that sulfapyridine is more toxic than sulfanilamide we believe that the therapy of lobar pneumonia is going to be greatly simplified and the cost of therapy lessened in the future, and that the disease will become much less fatal. Perhaps the combination of serum and sulfapyridine will give the best results, as each acts in a different way and may well supplement each other.

#### CONCLUSIONS

1. Specific serum has been shown of value in the treatment of the higher types of pneumococcus pneumonia as well as in types I and II.
2. Sulfapyridine is effective in the treatment of pneumococcus pneumonia and is possibly superior to specific serum.

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## Acute Post-Infectious Hemorrhagic Nephritis in Children .

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THIS disease entity in childhood is frequently referred to as acute hemorrhagic nephritis, acute exudative nephritis, acute glomerulo-tubular nephritis or acute focal nephritis. Most of these names are the outgrowth of, or the result of, the total lack of conformity in the pathologic picture of this disease as seen at the autopsy table. Most children coming to postmortem examination die not of this nephritis itself, but of extrarenal lesions. Usually the original focus of infection, either directly or by its extension into the blood stream or to other parts of the body is the cause of death.

#### GENERAL CONSIDERATIONS

Acute post-infectious hemorrhagic nephritis is a fairly common disease of childhood seen following an acute infection wherein the child becomes edematous, passes bloody urine and after a varying course of severity usually makes a complete recovery.

The exact etiology or pathogenesis of this disease is not fully understood. Although there is a defi-

nite relationship between acute microbial infection and this disease, no investigator has been able to demonstrate actual bacterial invasion of the kidney structure. It has been maintained by some workers that this type of nephritis is the result of irritation of bacterial toxins at the point of excretion. This theory falls by the wayside because the symptoms of nephritis are not present at the height of the febrile disease but come on 1-3 weeks later.

Most present day investigators believe that acute post-infectious hemorrhagic nephritis is an allergic manifestation of the cells in the kidney and elsewhere previously sensitized to bacterial toxins. Schick<sup>1</sup> suggested this in 1907 in reference to post scarlital nephritis and the more recent work of Hansen-Pruss, Loncope and O'Brien<sup>2</sup> shows that the vast majority of acute juvenile nephritics give marked allergic reactions to intradermal injections of streptococcal filtrates.

Scarlet fever has been over emphasized as a causative factor in this disease. Aldrich<sup>3, 4, 5, 6</sup> in a

recent review of over 400 cases found less than 20% of the cases followed scarlatina.

The most common preceding illness is a sore throat accompanied by cervical adenitis and otitis media which occur in 60% of the cases.

Other infections such as throat abscesses (tonsillar, peri-tonsillar, or retro-tonsillar), pneumonia, the acute exanthems, mumps, and osteomyelitis, account for approximately 20% of the cases, though a few cases have no demonstrable preceding infection. The streptococcus has been the associated organism in 95% of the cases.

According to the age incidence hemorrhagic nephritis is rare under one year of age. (Syphilis is the most common cause under 1 year.) 90% of all cases of acute post-infectious hemorrhagic nephritis are found between the ages of 3-10 years; this is during that period of life when the child is most likely to have the diseases previously mentioned as precursors.

The role of toxic drugs, with the exception of perhaps sulphanilamide, is insignificant in children. Though phenol, turpentine, cantharides, potassium chlorate, and the arsenicals, have been incriminated.

As previously mentioned there is no uniformity in the pathologic picture<sup>7</sup> of the kidneys as seen in the cases coming to autopsy. There are great variations in the extent of the renal involvement. The glomeruli may show generalized changes of a highly destructive nature or localized lesions insignificant in degree. There are all degrees and variations. Grossly the kidneys are larger than normal, more swollen, and more bloody. The capsules usually strip with ease. On cross section the cortex may be swollen and striated in appearance with varying degrees of redness. Pinpoint hemorrhages are usually seen and blood oozes freely from the cut surface.

Microscopically the changes seen in the glomerular tufts consist of proliferation and swelling of the endothelial cells and the basement membrane of Bowmans capsule. Bowmans space may or may not be filled with albuminous exudate, erythroyocytes, and leucocytes. Volhard<sup>8,9</sup> states that early the glomerular tufts are bloodless.

Tubular changes as a rule are not severe, though cloudy swelling of the cells and accumulations of leucocytes, red cells, and albumin material may be present in their lumina. Signs of inflammation—serum mixed with blood cells may be found in the interstitial tissue. Glomerular, tubular, and interstitial changes become more marked if the disease is prolonged, severe, or recurrent. Frequently at the time of autopsy one challenges the kidneys' part in death and certainly the disease often leaves little scarring or demonstrable damage.

#### SYMPTOMS

Symptoms are usually clear cut. The onset is sudden and practically always follows or accompanies an acute febrile infection usually of the upper respiratory tract. Much has been written about 21 day nephritis, but in children it usually occurs

from 7-10 days following the onset of the infection. Edema is present in 75% of cases; usually moderate but variable in degree. As much as 5-6 pounds of edema fluid may be present without pitting edema, but subsequent weight loss in diuresis bears this out. The edema may be either intra or extra cellular or both. Edema is usually generalized except for the palms and soles. The scalp is the best place for demonstration because of the smooth, hard bone closely underlying the skin. Ascites and collections of fluid in the serous cavities are rarely found and then only in the severe cases, and are usually late in the disease. Effusions, if present, are typically found just before diuresis at a time when there is plenty of water free for evacuation, but before the kidneys seem able to eliminate it. Demonstrable hydrothorax and pulmonary edema are unusual in this childhood nephritis.

Hematuria is usually gross in nature but by the time the physician sees the patient it may be microscopic. The color varies from smoky yellow to bright wine red or chocolate brown.

Other urinary anomalies consist of relatively large amounts of albumin, many casts of all kinds and varying numbers of leucocytes. Urinary output is diminished in most cases, but true anuria is rare. Specific gravity varies but is usually high, affording an important differential point from chronic non-specific nephritis. The gravity may show some fixation but concentration tests fall within normal limits.

Toxic symptoms include nausea, vomiting, dizziness, headache, blindness, or dimmed vision, hypertension, and rise in blood non-protein-nitrogen. Most patients vomit early in the disease but this symptom is rarely marked if fluids are given freely, vomiting late in the disease is of serious import indicating cerebral complications especially when combined with headache.

Hypertension is more common than usually reported, probably due to the fact that routine blood pressures in children have not come into vogue. Blood pressure examinations are important because a marked increase always precedes convulsive attacks by at least 12 hours. (Aldrich series 75% had elevation.)

N. P. N. increase in blood may or may not occur, the 60% show some rise during the course of the disease. Fever is often mild in the absence of dehydrating therapy and is probably due to the casual infection rather than nephritis.

Anemia is usually present but mild, paralleling the hematuria.

The major complications of acute hemorrhage nephritis in children are three in number, namely: (1) Renal failure, (2) Hypertensive encephalopathy, or eclamptic uremia, and (3) Cardiac failure. These complications occur alone or together, or they may follow each other in the same patient. Rubin and Rapoport<sup>10</sup> and others state that less than 1% of P. I. nephritis have these complications.

Renal failure is characterized by anuria lasting



from one to six days or intense oliguria. edema is mild or moderate in nature, retention of nitrogenous waste products extreme. High N. P. N. and creatinine, also high blood phosphate and low Co2 power. Blood pressure is only slightly elevated or normal. Intoxication becomes progressive leading to coma and death unless diuresis occurs. No convulsive symptoms are present in patients with renal failure. The picture here is one of intense toxemia due to the kidneys' inability to eliminate waste products of metabolism.

Hypertensive encephalopathy is usually ushered in by convulsions, coma, amaurosis or aphasia; the patient may have one or more convulsions. Death may occur during one of these convulsive seizures. This syndrome is dangerous to life and requires active treatment, but if the patient can be carried through this period of the disease safely the prognosis is no worse than an uncomplicated nephritis. That generalized vasoconstriction is present, is evidenced by the always present hypertension. This hypertension precedes the appearance of cerebral symptoms.

#### CARDIAC COMPLICATIONS

The cardiac complications of acute hemorrhagic nephritis are by far the commonest and more serious complications of this disease. The chief findings in the child nephritic with heart complications are the following:

(1) Hypertension—present in all cases manifesting signs of cardiac insufficiency. It is quite evident that the damaged heart of the nephritic is very apt to fail under the load of a sudden increase in peripheral resistance caused by the vasospasm, whether or not heart failure occurs depends upon two factors: (a) extent of myocardial damage, and (b) the degree of hypertension.

(2) Degrees of cardiac involvement may: (a) Simple dilatation without heart failure with or without apical systolic murmurs. Tachycardia is present. Volhard has emphatically pointed out that the pulse rate is normal or slow in uncomplicated nephritis.

(3) Cardiac dilatation with myocardial failure. In these patients the extra cardiac manifestations of heart failure are present. In addition to physical signs, x-ray, and electro cardiographic studies give ample evidence of cardiac damage. Generalized edema is always present and it is difficult to evaluate how much is of renal origin and to what extent heart failure contributes to it. Blood urea nitrogen is uniformly elevated with cardiac failure, whereas it had not been a consistent high finding in nephritics with hypertensive encephalopathy.

#### DIFFERENTIAL DIAGNOSIS

*Febrile albuminuria*, but this condition does not produce toxic symptoms and is not accompanied by gross blood in the urine.

*Nephrosis*—offers little difficulty as the finding of hematuria to incompatible with this diagnosis.

*Cardiac disease with edema*, such patients may have P. I. nephritis but in the presence of cardiac

decompensation one is not justified in making a diagnosis of nephritis unless such signs as hematuria, hypertension, fixation of specific gravity, increased N. P. N. or casts are found. If the patient has acute or sub-acute bacterial endocarditis with nephritic symptoms, he or she should not be included under the diagnosis of P. I. nephritis because of the entirely different pathologic and prognostic picture. *Orthostatic albuminuria* should cause no confusion as there is no hematuria and the first morning specimen shows no albumin.

*Chronic hematuric (non-specific) nephritis* in a stage of acute exacerbation due to intercurrent infection often presents considerable differential diagnostic difficulty. It is probably good practice to consider all hematuric nephritis as suffering from acute disease until forced by an undoubted history of long illness or clinical course of the disease to do otherwise. In the experience of most men dealing with juvenile nephritis, the onset of chronic nephritis is rarely accompanied by a preceding infection and this point is of definite diagnostic value. Searching inquiry in each case for antecedent renal symptoms such as hematuria, edema, nocturia and headache should be made, and if such a history is obtainable, it is likely that the patient has a chronic nephritis rather than though the attack at hand may be post-infectious in nature.

#### TREATMENT AND PREVENTION

Much has been written about the proper management of acute streptococcal infection as a measure to prevent renal involvement—suffice it to say that theoretically rest, adequate fluid administration, avoidance of chilling, and all medical measures to shorten the febrile period are important. Perhaps the routine use of sulfanilamide or sulfanilamide-like drugs will have a definite place in the prevention of many cases but only time can tell. It is questionable whether additional alkalis other than in the form of fruit juices are of prophylactic value. The diet should be liberal because it has been thoroughly demonstrated that a normal protein intake during the acute infection does not predispose to nephritis. However, a conservative attitude is maintained by the author which at least avoids argument.

The exciting infection, otitis media, throat abscesses, cervical abscesses, and sinus infection should be treated with surgical and medical means as such measures cause a rapid improvement in the clinical picture and surgery is indicated rather than contraindicated, though the nephritis occasionally clears up spontaneously in intractable mastoid and sinus disease. The explanation of this latter course is not clearly understood. Convalescent sera and blood transfusions are helpful procedures. Surgery should be done if possible under local or gas anesthesia, although ether may be used in special cases. Aldrich has the tonsils and adenoids removed in all of his patients with throat symptoms before leaving the hospital. This procedure is done to prevent relapses or reinfections and is not done until

all symptoms except albuminuria and possibly an occasional red cell in the urine have disappeared. No bad results were seen in his clinic with over 200 cases.

Fluid administration in the form of water, fruit juices, should be urged in all cases because the problem of toxemia and not the renal phase is the most important regardless of edema or urinary output. Persistent vomiting precludes the oral route for fluids. It seems that edema is not particularly increased by such measures but that diuresis is hastened. Sodium salts and solutions should not be given.

Theoretically adequate water intake should dilute the nephritic toxins and provide a vehicle for their elimination, the restriction of water tends to concentrate the toxins and to decrease the urinary output because adequate excretion cannot take place in the absence of free water. Brennemann<sup>11</sup> feels that it is just as dangerous to withhold water from a juvenile nephritic as it is to withhold anti-toxin in diphtheria.

Magnesium sulphate in adequate doses by mouth, muscle, or vein is an invaluable aid in the elimination of nephritic toxins, especially if hypertension is present.

Diet still remains the moot question in nephritis but the pendulum is swinging away from protein restriction. Men in the larger pediatric centers are allowing children with nephritis a liberal diet of protein and their results are 100% better than those where the protein is restricted. Salt should be restricted in the severe degrees of edema.

Drugs have little place in the treatment of uncomplicated P. I. nephritis and certainly the many diuretic drugs on the market have not proved to be consistently effective. Aspirin for symptomatic relief, potassium citrate as a harmless alkali, and magnesium sulphate in large doses for the relief of cerebral symptoms and hypertension, digitalis and 50% glucose in the cardiac complications are about all the medications needed. Diaphoretics, hot packs, sweats and drastic cathartics defeat the actual purpose for which they were used years ago. Warm clothing, bed rest, avoidance of infection and general hygienic measures, until symptomatic and pathologic signs have disappeared.

#### TREATMENT OF COMPLICATIONS

Therapy in the cases of renal failure is forcing of fluids intravenously isotonic and hypertonic glucose. Thus normal or increased blood volume is maintained in order to increase filtration pressure. Although immediately diuresis may not occur the administration of large volumes of fluid dilutes the retained metabolites. If diuresis cannot be initiated, these children die of a true uremia similar to that seen in adults. Surgical procedures such as decapsulation of kidneys have not been used successfully in juvenile nephritides.

Treatment of *hypertensive encephalopathy* is magnesium sulphate by mouth, per rectum, intravenously, and intramuscularly. Saturated solutions of

magnesium sulphate per mouth or rectum until the bowels have become loose is indicated. Intra muscular medication consists of giving 0.2 c.c. of 50%  $MgSO_4$  per kilo of body weight every 4-6 hours. In emergency cases 10% solution intravenously based on body weight and severity of convulsions and hypertension will save the day.

In using  $MgSO_4$  consideration must be given to the possible harmful effects which may occur. If there is much renal insufficiency, magnesium may pile up in the blood leading to magnesium narcosis and possible respiratory failure. Forcing of fluids in this complication of the disease is contraindicated as large volumes of fluid increase the blood volume, further aggravating hypertension and may produce heart failure. However, following the reduction of vasospasm fluids are indicated as in renal insufficiency. *Cardiac failure* in this complication fluids are kept at a minimum, magnesium sulphate given intramuscularly or by mouth or rectum to control hypertension. Phlebotomy (fairly large amounts) is a life-saving procedure in frank decompensation cases and the resulting anemia can be remedied with small transfusions later when the patient has recovered from heart failure. Fluids may be given also at this stage.

In attempts to improve cardiac efficiency the following procedures help:

- (1) Morphia in adequate narcotic doses.
- (2) Digitalization—rapid over a period of 12 hours using 45 mg. of whole leaf per kilo of body weight. Given by hypo as fat free tincture.
- (3) O<sub>2</sub> tent—this combats the anoxemia of acute decompensation.
- (4) Small doses of 50% glucose 10-20 c.c. every 4-6 hours. This keeps blood sugar level up and replenishes glycogen content of failing heart muscle.

#### PROGNOSIS

The prognosis in acute hemorrhagic post-infectious nephritis is uniformly good. Children practically never die of the nephritis per se but of its complications or because of extra renal lesions. That is, extension of the antecedent infection. Most of the contradiction that one sees in the literature on this type of nephritis exists because it is not remembered that childhood and adult nephritides differ markedly and because relatively few pathologic reports have as their basis the lesions seen in children.

Also it is forgotten that the juvenile kidney has a power of regeneration far greater than an adult. One seldom sees it brought out that this commonest childhood type of nephritis is the rarest in adults. This fact alone influences prognosis tremendously.

All pathologic pictures in adults are complicated to a greater or lesser degree by degenerative, arteriosclerotic, infection or age factors whereas the pediatrician sees a pure disease process acting on young vigorous individual.

In conclusion, permit me to reiterate that post-infectious hemorrhagic nephritis in children is usu-



ally a benign disease. Its complications, however, require active treatment. The rational use of fluids, medical and surgical procedures together with a fairly liberal diet gives marked reduction in mortality and morbidity. Sulfanilamide and its related drugs may in time reduce the number of cases seen, as this drug is a potent weapon in treatment of the antecedent infection in nephritis.

315 Adams Building

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## The Diagnosis of Syphilis

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THE diagnosis of syphilis was entirely a clinical procedure from the time of the recognition of the disease until 1905 when Schaudinn and Hoffmann isolated and described the causative organism. During the succeeding several years there was a gradual transition due almost entirely to the efforts of a limited number of syphilologists teaching in post-graduate courses and in medical schools, until by the end of the second decade of the 20th century the majority of practicing physicians recognized the diagnosis of early syphilis to be a 100 per cent laboratory procedure. No longer is a diagnosis of syphilis sufficient or acceptable unless qualified by the stage or type of the infection because the increased knowledge of the efficiency of various therapeutic procedures for the different types of syphilitic involvement demands that the stage of the infection be recognized before instituting the proper treatment.

### DIAGNOSIS OF EARLY SYPHILIS

Diagnosis of the chancre of early syphilis is made by one of the following laboratory procedures. First, by the microscopic identification of the presence of *Treponema Pallida* in the serum taken from the chancre; second, by microscopic identification of *Treponema Pallida* in the serum aspirated from the regional lymph nodes, (this identification can be accomplished either by darkfield examination or by the examination of a smear by any one of several special staining methods); third, a positive serologic test upon the serum from the chancre or upon the serum aspirated from the regional lymph nodes; or fourth, a positive serologic reaction upon the patient's blood. (The serologic reaction may be the Wassermann, Kolmer, diagnostic Kline, Kahn, Hinton or Eagle precipitation test provided the test is made by a qualified laboratory.)

The chancre is the first recognizable lesion in a *treponema pallida* infection and occurs at the point of inoculation. The incubation period may be any-

where between two and six weeks. The chancre usually occurs as a single lesion, however, it may be multiple or the *Treponema Pallida* may be found in a mixed infection being accompanied most often by the Ducrey bacillus, in which case we find hard and soft chancres occurring simultaneously. The clinical appearance of a penile lesion, while interesting to the clinician, is of no value in establishing either a positive or a negative diagnosis of syphilis. Here let me impress the point that any genital lesion, regardless of its appearance, should have several negative darkfield examinations before abandoning the search for *treponema*. The darkfield examination is a very simple procedure and should be used much more frequently both as a means of arriving at a positive diagnosis of syphilis and also as a means of ruling out a diagnosis of primary syphilis. The older text books devoted many pages to intricate detailed descriptions of the appearance of a typical Hunterian chancre. These descriptions and points of clinical differentiation are very interesting to read but at the present time a thorough knowledge of the technique of preparing and examining a darkfield preparation is by far the most important attribute for the highest proficiency in diagnosing the lesions of early syphilis.

Genital chancres in women are rarely recognized and diagnosed until after the appearance of the skin eruption. Occasionally a chancre of the external genitalia of a woman arouses some physician's suspicion with the result that a darkfield is ordered and a positive diagnosis is made in the seronegative stage. A chancre of the cervix or vaginal mucosa is not infrequently diagnosed as an erosion even in well regulated teaching clinics without any thought of syphilis until the secondary manifestations appear. Symptomless infections in the female are far from rare. Repeated darkfield examination of all genital lesions should apply to female as well as to male patients.

A chancre may occur at any point on the cutaneous surface, but is seen most often in the fol-

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lowing locations: on the genitalia; on the lips, tongue or tonsils; on the hand or fingers; on the perianal region; and on the breasts of female patients. Extragenital chancres are not a rare condition and according to Downing's<sup>1</sup> figures 6 per cent of syphilitic cases contract the disease through channels other than genital infections. A very small percentage of these cases of extragenital chancres are diagnosed during the primary stage. Even the cases of chancre of the finger occurring in members of the medical profession rarely arouse suspicion of syphilis until the secondary cutaneous manifestations appear. Therefore, we should make it a rule to have darkfield examinations of all skin and mucous membrane lesions which do not heal with the ordinary local applications when treated for a period of two weeks.

The report of the Cooperative Clinical Group<sup>2</sup> shows that when syphilis is diagnosed in the seronegative chancre stage, followed by adequate treatment over the necessary interval of time, cures can be expected in 85 per cent of cases. Since these figures show such a marked advantage for the early treatment then it is quite evident that one of the best means available for controlling the spread of syphilis is through educating the medical profession to utilize the most applicable methods of diagnosing each stage of syphilis. In the chancre stage this would include lowering of the threshold of suspicion toward syphilitic infection followed by early and repeated darkfield examinations on all genital and all suspicious extragenital sores.

#### DIAGNOSIS OF EARLY SECONDARY SYPHILIS

The diagnosis of early secondary or acute systemic syphilis in those cases which present a generalized cutaneous eruption may be made from the clinical findings in conjunction with the presence or history of a genital lesion. However, since positive diagnosis of early syphilis requires definite laboratory evidence then the diagnosis even in these typical cases of secondary syphilis should be substantiated by a positive serologic reaction.

The manifestations of acute secondary syphilis usually appear in from six to twelve weeks after the infection. They produce a large variety of clinical symptoms, one of the most constant being a skin eruption which may be of various types: muscular, maculo-papular, papular, papulo-squamous, circinate or pustular. In fact, most any skin disease may be simulated except those of the vesicular and bullous group. The eruptions of acute secondary syphilis which present cutaneous manifestations of unusual distribution or of very atypical appearance such as those often seen in early pregnancies are far too frequently either overlooked or considered of no importance by physicians making routine physical examinations.

Certain skin eruptions, notable unusual cases of pityriasis rosae, certain drug eruption caused by copaiba, or coal tar derivatives occurring simultaneously with a penile sore, and an occasional

atypical case of acute exanthemata may suggest a diagnosis of acute secondary syphilis. Early secondary syphilis may completely spare the skin and involve only the mucous membranes. The diagnosis in such cases may be confused with acute follicular tonsillitis, Vincent's infection or erythema multiforme if the oral mucosa is involved or with hemorrhoids if the rectal mucosa is involved. Routine serologic tests by the family physician in all patients exhibiting cutaneous or mucous membrane lesions would aid materially in diagnosing many cases of early secondary syphilis and also would prevent an occasional mistaken diagnosis.

The common ocular lesions of secondary syphilis are iritis and neuroretinitis. Since syphilis is responsible for 30 to 50 per cent of all types of iritis and neuroretinitis it seems only logical that a serologic test should be one of the earliest steps in the diagnostic study of all cases suggesting these eye conditions.

The Wassermann reaction or any of the several accepted serologic tests for syphilis is much more specific than many of the common laboratory tests or procedures accepted for common use in the practice of modern medicine. The Cooperative Clinical Group<sup>3</sup> reports that the Wassermann reaction is positive in approximately 99 per cent of patients with secondary syphilis. Since we have access to this specific test in early secondary syphilis are we not justified in requiring a positive serologic reaction to substantiate every clinical diagnosis of acute secondary syphilis particularly when this positive serological test also serves as a control in directing and carrying out the proper subsequent anti-syphilitic therapy? More frequent use of the Wassermann test as a routine procedure in patients with symptoms suggesting a possibility of secondary syphilis would greatly aid in controlling the spread of syphilis.

#### DIAGNOSIS OF RELAPSING SYPHILIS

The diagnosis of relapsing syphilis is more dependent on the clinical findings than the diagnosis of acute early syphilis, because some relapsing cases do not present a positive serologic reaction. This is a dangerous type of syphilis from the Public Health standpoint, as most of these cases are highly infectious and many of them, having taken a considerable amount of treatment, have a feeling of false security concerning their chances of transmitting the infection to other individuals. These cases of relapsing syphilis are also notoriously resistant to the ordinary therapeutic measures. Therefore, in these cases the necessity is appreciated of making the correct diagnosis. In some cases with negative serology the diagnosis can only be ascertained through a carefully taken history or by means of a thorough physical examination. Cooperation on the part of the medical profession in the prompt reporting of delinquent patients to the Public Health Service is of great importance in the prevention and control of this type of syphilis.



### DIAGNOSIS OF LATENT SYPHILIS

The diagnosis of latent syphilis like the diagnosis of early syphilis is a 100 per cent laboratory procedure because latent syphilis, being clinically asymptomatic, is evidenced only by a positive laboratory test. Our records at the Denver Venereal Clinic show that approximately 70 per cent of latent syphilis cases give no history of any primary or secondary manifestations. A diagnosis of latent syphilis requires an elimination of the presence of any other infection which could produce a positive serologic reaction such as tuberculosis,<sup>4</sup> malaria, scarlet fever, leprosy, septicemia, infectious mononucleosis, or certain tropical diseases.<sup>5</sup>

Compulsory examination for communicable diseases in certain groups of employees or as required in certain occupations have shown a high incidence of latent syphilis due to the physician accepting a two plus, a one plus, or even a doubtful serologic test as sufficient evidence for a positive diagnosis. In spite of the possibility of infectiousness in some of the early latent cases probably a final diagnosis of latent syphilis should not be made unless two or more serologic tests, preferably from different laboratories, have been returned as strongly positive. Since we are making a diagnosis entirely upon laboratory evidence we should particularly guard against false positive diagnoses. The tendency in latent syphilis is often toward too strenuous treatment. In handling these cases let us remember Stokes' suggestion that "latency in syphilis today is underexamined and overtreated."<sup>6</sup>

### DIAGNOSIS OF ASYMPTOMATIC NEUROSYPHILIS

Asymptomatic neurosyphilitic cases which present neither subjective nor objective clinical symptoms can be diagnosed only by examination of the spinal fluid. The diagnosis of these cases demonstrates the value of routine spinal fluid examinations in suspected syphilis cases as well as in all syphilis patients regardless of the stage of the disease.

### DIAGNOSIS OF CONGENITAL SYPHILIS

The diagnosis of prenatal congenital syphilis can often be made only by serologic tests because very few pregnant women show the presence of active syphilitic lesions. The adequate therapy of all serologic positive pregnant women and all serologic negative pregnant women with a definite history of previous syphilitic infection would prevent congenital syphilis with nearly absolute certainty. These facts probably justify the compulsory serologic testing of all pregnant women as required by law in several of the states. The medical profession has undoubtedly been too slow in publicly advocating routine blood tests in all pregnancies.

With so many mothers recognized as syphilitic and receiving some treatment during pregnancy, typical clinical cases of infantile congenital syphilis would be diagnosed earlier if physicians would remember the following points: first, suspect syphilis

in all babies where the mother is a known syphilitic, have a blood test at four weeks, repeat every month for six months and then every six months for a period of two years before being convinced that the baby is free from syphilis; second, suspect early congenital syphilis in all babies with a skin rash, snuffles, or malnutrition and check with serologic test; third, suspect late congenital syphilis in older children with deafness "pink eye", osteomyelitis or peculiarities of the permanent teeth. These cases, if syphilitic, will have a positive serologic reaction.

### DIAGNOSIS OF LATE SYPHILIS

The symptoms of late syphilis may make their appearance as early as three years subsequent to the original infection or at any later period during the lifetime of the patient. This involvement may occur in any portion of the body, but approximately 95 per cent of patients with late syphilis develop lesions in one or more of seven systems; the mucocutaneous covering, the skeletal system, the gastrointestinal tract, the liver and spleen, the cardiovascular system, the eye and the nervous system.

The diagnosis of late syphilis may be made by one or more of the following methods:

1. Clinical symptoms evidenced by thorough examination
2. Serologic blood tests
3. Spinal fluid examination
4. Therapeutic test of antisymphilitic drugs
5. Histological examination.

Routine serologic tests will aid in the diagnosis of perhaps 70 per cent of late syphilis cases. The remaining 30 per cent must be diagnosed by clinical signs and symptoms. In many of these cases the first, the chief, or the only clue to the relative quiescent syphilitic infection may be in some lesion of the skin, bones, or other portion of the body to which the patient has given little or no attention. The correct interpretation of such a lesion may allow a diagnosis of late syphilis involvement which may have been overlooked previously because of a negative serology. Therefore, the importance and value of clinical experience and judgment in differential diagnosis can not be overrated in the ability of a physician to recognize the numerous manifestations of late syphilitic involvement.

### SUMMARY

1. The diagnosis of syphilis is incomplete unless it includes the stage of the disease and the type of involvement.
2. The diagnosis of all early syphilis is a 100 per cent laboratory procedure.
3. The diagnosis of relapsing syphilis may depend either on laboratory or clinical evidence.
4. The diagnosis of latent syphilis is a 100 per cent laboratory procedure.
5. The diagnosis of asymptomatic neurosyphilis is always dependent upon laboratory evidence.
6. The diagnosis of congenital syphilis may depend upon a definite history, physical findings, or serologic tests.

7. The diagnosis of late syphilis is more dependent upon physical findings. The serologic tests are much less specific in this stage.

1612 Tremont.

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## Enuresis

JOHN W. PENNINGTON, M.D.

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ENURESIS is a term applied to a clinical syndrome which is characterized by involuntary urinary incontinence, usually at night, less often in the daytime and occasionally both in the daytime and at night. This discussion will be based on those cases more than 4 years of age, who have not responded to the usual and ordinary type of treatment.

Campbell states: "There is little doubt that enuresis as commonly diagnosed is a functional condition in 19 out of every 20 cases (95% or more)." In the remaining group the clinical syndrome, loosely diagnosed as enuresis, is due to organic disease which in some instances is grave. Although pediatricians and others rightly argue that the condition in this 5% is not true enuresis, the fact remains that in everyday practice by this group, this diagnosis is almost always made even by our outstanding pediatricists. There can always be a disagreement as to nomenclature, as the usual criteria for making the diagnosis of enuresis is nocturnal bed-wetting or the loss of urine during the day, or both. As soon as the diagnosis of enuresis is established then is the proper time for a *thorough* and a very *careful* physical examination, which should include a careful examination of the genitals for evidence of irritation, small urinary meatus and an especially careful neurological study with spina bifida or other congenital anomaly in mind.

In most cases there is nothing in the symptomatology or urinalysis to differentiate the functional problem from one with organic lesions. An organic lesion should always be kept in mind. It is true that most bedwetters tend to be nervous individuals.

There are many theories as to the etiology of enuresis. A brief mention of a few of these will suffice to show the lack of knowledge of the true cause. The incidence of enuresis is estimated between 7-15% of children. Enuresis usually dates from birth. Race is apparently not a factor, but hereditary tendency seems to be important. Often the parents are of poor stock and usually one or both are neurotic. Environment may also be a factor, as the trait can be traced through several successive generations. Some children begin the

habit when they hear that their parents or grandparents had done so. The intelligence of the bedwetting child is average. In many children careless or neglected habit training accounts for the difficulty. Severe illness, with a relaxation of training, will often be the exciting factor. Psychic factors must be given careful consideration. On the arrival of a new baby, with the child becoming dethroned as the center of family attention, then the child turns to bedwetting to get the desired attention. Many psychic conditions have been advanced as a cause; inferiority complex, jealousy, antagonism, a dream basis, and many others. Emotional tension such as would be caused by maladjustment of the parents.

The group I wish to stress is the 5% who have organic disease and have not responded to the ordinary methods of treatment. Every doctor who cares for children has his method of medical treatment. Nearly all of these methods are good if persisted in. Prophylaxis is the first form of treatment. Correct training beginning as soon as the child can sit up. This training carried out in a friendly and kindly manner using a regular schedule and not an intermittent one. Medical treatment usually needs to be directed toward the mother and her co-operation is absolutely necessary. The child to be taken up at regular times. Older children can usually be taught to use an alarm clock to awaken them. Various drugs are suggested and all have their strong advocates. Punishment is one form of treatment which is absolutely contra-indicated.

In a careful and complete survey by Campbell in 532 cases of persistent bedwetters who were subjected to urological examination, 60% were found to have organic pathology. These children had all resisted intensive and persistent treatment of ordinary variety. The pathological condition present ranged from neurogenic conditions with cord bladder to almost all of the urological conditions found in an adult. *Urethrotigonitis*, or irritation of the base of the vesical orifice and the posterior urethra in both male and female patient, was the most common diagnosis. *Prostatitis*, contracture of the bladder neck, and posterior urethral valves were quite common. *Renal infection* of a chronic type was found frequently. Campbell listed 40 different final diagnosis in those children found to have definite abnormalities.



## CASE REPORTS

Case No. 1—M. R., male, 13 years of age.

Patient had been a bedwetter all of his life. He was unable to stay overnight with his friends because any unusual excitement caused marked bedwetting. Day voidings from four to six times. He had no urgency, but there was marked terminal dribbling. During the last few years he would often awaken upon starting to void and go to the bathroom to finish. Cystoscopic examination revealed a contracted bladder neck with inflammation of the posterior urethra. Immediately following the examination the patient voluntarily stated the urinary stream was better than it ever had been. Following two dilatations of the bladder neck this patient was entirely relieved and has had no further trouble. He was seen 5 years ago.

Case No. 2—B. A. B., female, age 15 years.

Patient had become a bedwetter following scarlet fever at the age of 4 years. The urine had always been normal and the patient and her mother had been reassured by numerous doctors that the child would outgrow the trouble. Day voidings were at hourly intervals and if her classes in high school were too long, she would lose some urine. She wet the bed four to five times or more every night. This girl was a nervous, hysterical individual; I don't blame her; I would be also if I feared I was going to wet my clothes all of the time. Upon examination the urethra was found to be strictured and chronically irritated and inflamed. The urine showed no blood, pus, infection or albumin. With painful distention the bladder capacity was 300 c.cs. With two treatments using hydraulic distentions to the bladder and dilatations of the urethra with sounds to a size No. 24 F. the patient was able to go all night and would go for 3 hours in the daytime. She was treated at intervals for 4 months during 1936. In a recent conversation with the girl's mother, it was learned she had been well until recently, when she began to have a slight tendency to frequency, but had never wet the bed since she received the above treatments.

Case No. 3—M. J. S., Jr., 34 years.

Patient seen because of pain in the thighs and lower back, urinary infection and total inability to work from the pain. History of bedwetting until 12 or 13 years of age. He joined the army at the age of 15 years, and because of recurrent discharge and shreds in the urine, was given intensive treatment as a suspected case of gonorrhea. None had ever been found, according to the patient; I believe him. Nocturia, three to four times. Day voidings, four to six times, with marked hesitancy, double voiding and marked terminal dribbling. The patient was unable to void in the presence of anyone. This is a common finding in a person with a congenital obstruction to the neck of the bladder. The urine was infected with a mixture of staphylococci and bacilli. The prostatic secretion was full of pus. A cystoscopic examination revealed a very marked median bar and a marked posterior urethritis. The median region of the prostate was approximately three times the normal thickness. This patient should have a transurethral resection of this obstruction.

## COMMENT

These three cases will suffice to demonstrate some of the possibilities in those patients who form only 5% of the bedwetters, but who are to be pitied if they are not given adequate treatment where indicated. Especially the last patient, who lived to adult life with a condition which if discovered and treated while he was still a youth

would have saved him thousands of dollars and marked disability.

Urologists see the end results of the neglected children. Both men and women in the second, third and fourth decades arrive at our offices with a pitiful story of trouble all of their lives. Some men have long histories of recurrent discharge, epididymitis and long years of treatment by massage, irrigations and sounds, often with only temporary relief. Women who are nervous wrecks, with the story of marked nocturia up to eight or ten times and also day frequency. It is surprising the number of these women who will state they will wet their clothing if a toilet is not handy. The problem in the female is usually much easier to correct. Many of the men have such marked changes that only surgical intervention will offer a hope of permanent relief.

In conclusion, let me appeal to all doctors to view those children more than 4 years of age who persist in bedwetting, as though they were your own. Would you allow your child to go without a thorough examination and adequate treatment where indicated?

15 East Monroe St.

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## DISCUSSION

Dr. Smith: Thank you very much, Dr. Pennington. The paper is now open for discussion.

Dr. Tappan: Mr. chairman, ladies and gentlemen, I think we are all very much indebted to Dr. Pennington for calling our attention to the question of the child whose future very often is completely ruined by failure to correct very often some simple urinary problem in early childhood. One point that Dr. Pennington did not make was the duration where it was safe to allow a child to go with his bedwetting before urinary investigation was carried out. I think in general about three months is the limit where simple medical procedures, examination of the urine, social environment, and so on, are all taken into consideration. If there is no improvement at the end of three months, then I think that more intensive urological examination is indicated. When it comes to the question of intelligence, I think what Dr. Pennington implies is that all grades of intelligence are present, from the minimal to almost the genius, and not to imply that the average child bedwetter has an average intelligence. Also, only about 7% of these children are day wetters as well as night. If there is wetting during the day, I feel that the organic factors should be taken into consideration almost immediately. The psychological approach cannot be stressed too much, in view of the fact that in one of the psychological clinics in this country four children out of 26 of their cases came to them with the complaint of enuresis. That does not mean that the child with the psychological problem is a bedwetter. I should like to urge the general practitioner and the pediatricians to take Dr. Pennington's paper very seriously, to take any child not responding to treatment in three months, to subject that child to a more thorough investigation than you might otherwise do.

Dr. Warren: I enjoyed Dr. Pennington's paper very much, and it seems to me he did not emphasize the dilatation treatment as to whether he considered that a very good treatment, but I

judged from the results that he got in the cases that he gave that the dilatation treatment in both male and female was an excellent treatment.

Dr. Smith: Is there any further discussion? If not, Dr. Pennington, do you have any closing remarks?

Dr. Pennington: As to my feelings on the medical management, I feel that six months to a year is

the proper trial period, and as Dr. Tappan suggested, day voiding is a sign of more serious trouble than the night voiding only. As to Dr. Warren's question, the larger percentage of these children will usually respond to a simple measure, but the treatment has to be based on your findings after a complete urologic examination.

Dr. Smith: Thank you, Doctor.

## Treatment of Acute Intestinal Intoxication

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The treatment of acute intestinal intoxication is primarily the treatment of a severe acidosis resulting from:

1. The development of anhydremia leading to a circulatory failure which in turn leads to anoxemia and favors accumulation of lactic and which neutralizes alkali bicarbonate.

2. Exhaustion of carbohydrates reserve (Luer Glycogen in particular) resulting from starvation or infection, leads to Ketosis which adds and depletes the alkali bicarbonate.

3. Oliguria, while compensatory as far as water is concerned may curtail to too great an extent the excretion of fixed acid bound to ammonia and results in the accumulation of chloride, phosphate and sulphate at the expense of the alkali bicarbonate in the blood and body fluids.

4. Loss of gastrointestinal secretions through vomiting and diarrhea leads to excessive loss of fixed base from the blood plasma, the failure of replenishment of which hinders restitution of diminished bicarbonate.

The treatment of these acidoses as outlined by Hartmann, is as follows:

1. Total restriction of food,—this is a variable point however, many men feel that such substances as scraped apple and bananas have a definite purpose in the detoxification of the bowel. Withholding food for a 12-hour period however, can do no harm.

2. The administration of sodium lactate solution to relieve promptly the acidosis and to relieve at least partially the dehydration. The usual dose is 50 c.c. of  $\frac{1}{4}$  Molar solution per kilogram of body weight. A part should be injected intravenously to restore as quickly as possible diminished blood volume, while the remainder is administered subcutaneously or intraperitoneally.

3. Administration of Hartmann's solution by mouth.

4. The administration of dextrose solution to furnish fuel to relieve ketosis and help in reestablishing the glycogen reserves of the body. These may be given subcutaneously in 5% solution with or without normal saline, or 10% by slow intravenous injection.

5. The administration of citrated whole blood. This should not be resorted to until after the fluid balance has been well restored, inasmuch as transfusion given in the presence of marked blood con-

centration may result in farther increase in plasma protein content and intensification of the phenomena of anhydremia. Blood transfusion tends to reestablish the plasma protein level in the recipient and tends to prevent the development of secondary nutritional edema. It may also furnish some bacterial antibodies, particularly to *B. Coli*.

The procedure can usually be carried out satisfactorily within the first 12 hours. Should severe diarrhea continue, the parenteral administration of physiologic buffer solution may have to be repeated two to three times daily or given continuously by slow intravenous drip. The presence of vomiting and distention often necessitates the use of the Wangenstein apparatus.

Once this acidosis is under control you are then ready to "check the diarrhea." I purposely omit any mention of bismuth, paragoric and castor oil because most present day writers do not feel it has any place in the treatment of diarrhea, and certainly not in the acute intestinal intoxication group. Enemas are used mostly in home treatment. The apple and banana diets are valuable agents to be used to detoxify the bowel and are often well tolerated.

The milks which are used and often well tolerated are usually defatted, and carry a high protein content. Commercial powdered protein milk is very reliable. Most formulas have as their base a diluted skimmed milk to which is added a sugar and calcium cascarate. These milks are used to support the nutrition until diarrhea has subsided enough to add other foods.

The role of contributing infections of the body must not be forgotten and it should be remembered that otitis and mastoiditis are often unsuspected contributing factors to the toxicity and require treatment.

The specific anti-sera have been used with some success in Shiga infections. Others are being developed for Flexer and Hiss-Y. I have had no experience with them.

The treatment resembles that for typhoid fever management and requires good nursing care.

At its best the return to normal after a severe intestinal intoxication is a long drawn out process taxing both patient, parent and doctor.

It has been said that without diarrhea there would be no pediatricians. Diarrhea is to the Pediatricist, what appendicitis is to the surgeon.



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## DAMAGING MISTAKES

No one but a hopeless idiot would argue that all is perfect in this best possible of worlds. Abuses there are, misery thrives along Park Avenue and Railroad Alley alike, tears flow in many a wretched home. Today, partly because of rapid methods of communication, people are more than ever aware of widespread despair. But yesterday it was likewise present.

Many men and women with big hearts are devoting their lives in the service of their unhappier fellows. Various schemes are advanced for partial alleviation of the lot of the unfortunates. So many of these plans are launched with high hopes, sometimes on oceans of prayers. It is tragic to acknowledge that to date only failure has come to most of these moves for the betterment of man.

Schemes for the better distribution of competent medical care have of late occupied prominence in the public eye. Most of these have been based upon revolutionary concepts; many have subsequently foundered on this shoal. The ideal plan for medical help for all the population has not yet been conceived. Perhaps one day experimentation of the intelligent sort, free from acrimony, divorced from politics, may point the way. To date unbiased judgment must decide that the time-tried methods of private, individualized American medicine is far and away the very best system yet devised.

San Francisco inaugurated a plan for medical care that early bore promise for all concerned. That scheme has come to grievous times and bids

fair to fail ingloriously. Reasons cry at the reader of the following:<sup>1</sup>

The troubles that have dogged San Francisco's venture into compulsory health insurance since its beginning several months ago continue to pile up. When the city's 15,000 municipal employees were originally placed under this panacea, some predicted that a medical millennium was at hand. The subscribers would pay only \$2.50 a month for medical care. The doctors would be amply compensated on a unit basis. The project couldn't go broke because the scheme provided that, in the event of any shortage, it would be divided proportionately among the physicians with claims for service.

Since then, the 1,000 physicians on the organization's panel have discovered that if the service can't go broke, they can. Shortages, they claim, have become the rule. And every attempt of the administrators to get the service out of the red has resulted in another raid on the doctor's fund.

The first serious difficulty was encountered when Dr. Edwin L. Bruck, San Francisco County Medical Society president, made public a number of complaints from panel members. They charged the administration with arbitrarily paring individual fees.

On the heels of this came an official announcement from Jesse Cameron, executive secretary of the service, that all bills for January would be cut in half. Reason, he explained, was that the patients had run up \$38,000 worth of care in one month. Against this in the treasury there was only \$20,000.

To this jolt was added a notification from Medical Director Walter B. Coffey, that doctors would no longer be able to collect until six months after rendering service. This delay, he said, was necessary because of all the record-keeping involved.

Soon after, Dr. Coffey announced more sad news. The fee schedule, he asserted, was not sufficiently "elastic"; it would have to be replaced by a "sliding scale." The existing schedule, he said, could still be used. Only the fees specified on it would become "maximums," with minimums approximately 50 per cent less. In other words, instead of receiving \$150 for an appendectomy, as called for by the schedule, the doctor would get from \$75 to \$150.

This, as Dr. Bruck put it, would "make the minimum the maximum in almost every case." Whereupon the San Francisco Medical Society filed a formal protest. At this writing, the physicians are still waiting to learn their fate.

While fees have plummeted downward, administrative costs remain high. A number of physicians have even described them as "exorbitant." Cameron King, president of the board of directors, admits that a survey of the clerical staff showed low efficiency and many overlapping duties. Two of the three directors up for re-election have refused to run again. Both had been voted down after moving that directors have access to the association's list of administrative officers, duties and salaries.

In an interview, one of these officers, James L. Quigley, disclosed that he had made his motion because of subscribers' criticisms concerning administration expenditures and alleged politics in appointments. He revealed that he had never obtained the information he sought.

"There have been differences of opinion on the board," Quigley stated. "Since I don't know what's going on, even though I'm a director, I can't express myself either way on administrative expenditures. They feel I'm an obstructionist on the board. So I'm leaving it."

To the physicians' other headaches has been added competition from drugless healers. Although returns from a questionnaire sent patients showed that only 183 out of 15,000 requested the services of osteopaths, chiropractors or naturopaths, it has been decided to admit the latter to the panels. Subscribers now may be treated by one of these practitioners instead of an M. D.

And yet the Great Planners of the State have learned, Bourbon-like, nothing from former mistakes. Is it possible that one day they may decide to consult the doctor?

(1) *Medical Economics*, May, 1939.

### MECHANISM OF DISCONTENT

Most settlements of any size have a town clown, a depot fool, and a noisy little boy who always sits on the front row at the local movie house and throws peanuts at the screen to attract attention to himself. Nobody knows much what happens to the funny little town clown or to the rather pitiful depot fool; but everybody knows what happens to the loud little boy when he grows up. He becomes a joiner. He is still obsessed with a mania for attracting attention to himself by the loud noises he makes. His advice is not usually sought; he just ladles it out anyway. Now, when enough loud little boys get together they can form some sort of a committee. The whacking din they collectively manage to raise booms over the tundra and it costs a strong willed man some effort to keep from turning his ear in the direction of the self-applause.

Most of the chaps we now speak of go through life with a notion that the worth of an idea must be gauged by the violence of the sound waves at its birth. Most of them, too, never feel that they have been fully heard. They have been told that women usually have the last word. but, by heck, they aren't going to be put in the shade by any female. So the merry business of trying to outshout an echo goes on. However, in all good humor it must be admitted that the steadier segment of the population gains a good deal of amusement from the spectacle staged by the louder ones in loping through the rites of self-idolatry.

The famous Committee of Physicians has recently labored again and brought forth another litter of mice. Hosannahs should ring over America over the joyous news that it is now "their intention to subject to scrutiny and to expose to the light of public opinion and more especially to the physicians of this country, projects or actions of government or of organized medical or lay groups."

Wouldn't we be in a tough fix if we didn't have these giants to strut sturdily between us and the bad works of the devils they have conjured? Shivers of love for our fearless protectors must surely wiggle up our spines when we learn that "they have felt constrained to adopt an uncompromising attitude toward projects or measures that obviously violate the fundamental ends for which they have united, namely, the protection and improvement of the quality of medical care." Our heroes "have proclaimed interest in education and investigation, establishment, maintenance and employment of standards of competence and merit, the need for expert control, all features that are incompatible with static uniformity." Hoorah for Home, Mother, and the Flag!

Quiet reason must certainly lead one to conclude that the only body in the United States of America at all competent to speak for the profession of medicine in this country is the American Medical Association and its constituent state and county societies. Never yet has the cathedral janitor been designated to prosecute a cause in sainthood before the College of Cardinals or the Pope. Likewise, it appears desperately presumptuous of the Committee of Physicians to muscle into the councils of organized medicine and the legislative bodies of the land. Rather, let them join the great mass of common fellows who believe in democracy and take their places as workers in the ranks. American medicine is headed for high places. Let not the humorous fringes attempt to block its progress.

### V. FISHBEIN

Twice in recent weeks has the editor of the *Journal of the American Medical Association*, Dr. Morris Fishbein, been haled into Texas district federal courts to defend his stand on the side of scientific medicine. Both court actions have resulted in verdicts for the defendant. Suits against Dr. Fishbein and the American Medical Association seem to end that way. In all the dreary procession of the disgruntled none has been able yet to refute the truth as so ably defended by Dr. Fishbein. Brinkley at Del Rio, Brunson at El Paso—both had their day, and now public opinion asks for settlement of the chit.

The court battles well exemplify another phase of the activities of America's medical trust. The question is being asked more frequently in Texas as to just why it should be necessary for a private agency to assume the lion's share of the burden of protection of the public's health and welfare. It is dawning upon good citizens that perhaps the state legislature should provide more stringent regulations of the activities of the gentry outside the pale of scientific medicine. Until something is finally done by our law-making bodies to take over this duty, the public must continue adding to its debt to Morris Fishbein and the American Medical Association.



## *Special Section* Arizona State Medical Association

PRESTON T. BROWN, M. D., *Associate Editor*  
403 Professional Bldg., Phoenix, Arizona

### COULD BE!

COULD BE, the ARIZONA SECTION of Southwestern Medicine would be informative, interesting, alive and full of pep if you, physician-reader, would lend your literary support.

COULD BE, the SECTION would give an account of your recent graduate studies, your certification by some Board, or whatever professional accomplishment you have recently attained if you would tell us about it.

COULD BE, a scientific paper, a hospital staff report, an interesting case report, something, anything that is "tops" in your own medical or surgical experience might be printed here if you would but submit it for publication.

COULD BE, you of Apache, Cochise, Coconino, Gila, Graham, Greenlee, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, and Yuma—for we are largely Maricopa as it is—COULD BE, we could have as readable a section as any Medical Journal in the country if you would but contribute a dash of your best humor; a helping of your best medical or surgical thought, or a full dose of your best ideas on medical economic problems. Some of you must write now and then, so why not write to us. COULD BE, some one will!

### PROFESSIONAL NEWS

St. Joseph's Hospital, Phoenix, has inaugurated a new service by employing a full-time pathologist. Dr. Onie O. Williams, a graduate in medicine from Vanderbilt University, 1928, with three years' training in pathology at the University of California, two years as instructor in pathology at the University of Oklahoma, and certified by the American Board of Pathology, is filling this post at the hospital. This is a service which the hospital has contemplated for some time, its fulfillment marking a step forward in hospital procedure.

Dr. Dermont W. Melick of Williams, Ariz., a graduate in medicine from the University of Pennsylvania, is in attendance at the University of Wisconsin, State of Wisconsin General Hospital, doing two years graduate work in surgery. He has also just completed ten months graduate work at his alma mater in the same specialty. Dr. Melick, a member of the Arizona State Medical Association, has resigned his membership on the Committee of Tuberculosis Control, due to his continued absence from the state.

Dr. John W. Pennington, of Phoenix, has returned from White Sulphur Springs, Virginia, where he was certified by the American Board in Urology and inducted into membership in the American Urological Association. While at White Sulphur Springs, Dr. Pennington attended the annual session of the American Urological Society, going from there to Philadelphia, where he took graduate work at Jefferson Medical College under Dr. David M. Davis, formerly of Phoenix.

### PRELIMINARY REPORT ON THE AMERICAN MEDICAL ASSOCIATION STUDY OF NEED AND SUPPLY OF MEDICAL CARE

The objective of the American Medical Association survey was to obtain the facts about the need and supply of medical care in the United States. Like a scientific diagnosis of a sick person, this survey was not made to fit a prescription already written; unlike a quack diagnosis, it was not made to prove that society needed the remedy most profitable to the quack.

There have been many surveys of an entirely different kind. They are easier to conduct. To prove that "40 million people" need medical care which they do not receive it is only necessary to start with a definition of illness which fits nearly everyone. This is easy. There are few physically perfect persons.

The three surveys that furnished most of the propaganda projectiles now being hurled at the medical profession all followed this recipe. The Committee on the Costs of Medical Care defined illness to include absence from work or school or the expenditure of 50 cents in a drug store.<sup>1</sup> The California Medical Association survey used practically the same definition. The Interdepartmental Committee to Coordinate Health and Welfare Activities, to get the even larger amount of illness needed to provide propaganda for its proposed billions of expenditures and political machinery, expanded the definition still further to include any previous injury that the family could remember to list for the W. P. A. inquirer. A lost arm, hand, eye, or other physical defect resulting from a previous accident or injury became an "illness" requiring medical treatment.

To further fit the diagnosis to the proposed remedy, it was assumed that all persons to whom such an "illness" was ascribed needed and desired medical treatment. These surveys then measured medical care by the amount spent by different economic classes, disregarding the fact that medical service is almost the only commodity priced according to the income of the buyer or given without charge. Having assembled these symptoms the surveyors were eager to supply the remedy for which this diagnosis had been prepared—compulsory sickness insurance.

#### ANOTHER KIND OF SURVEY

The American Medical Association, in undertaking a "Study of the Need and Supply of Medical Care," did not first decide on the treatment and then make a diagnosis to fit the proposed treatment. Information was sought from every available source. The medical profession already knew that physicians are not the only source of information as to the need and supply of medical

1. Publication No. 26 of the Committee on the Costs of Medical Care on "The Incidence of Illness and the Receipt and Costs of Care Among Representative Families." (Page 8), gives the following definition of illness: "For the purposes of this study an illness is defined as any disorder which wholly or partially disables an individual for one or more days or as any experience for which medical service of any kind is required. Any condition, symptom, or disorder for which drugs costing fifty cents or more are purchased is considered an illness."

care, although it would seem that they are a sufficiently important source not to be almost completely ignored, as they were by other surveyors.

Nine special forms were prepared and distributed for reporting the necessary information. One of these was addressed to physicians and dentists. Eight were distributed to other sources as follows: hospitals; nurses; health departments; private or governmental welfare and relief agencies; private and public school systems; universities and colleges; industrial, fraternal, mutual benefit, group hospitalization, and similar organizations; and pharmacists. It is worthy of notice that the excellent co-operation resulted in a much larger percentage of replies from these sources than was received from physicians and dentists.

All previous surveys covered a much smaller percentage of the population and of the geographical area of the United States than the American Medical Association study. Five Hundred and two county medical societies made returns from 763 counties in 37 states. The total population of these counties in 1930 was 43,790,068.

This survey is more nearly representative of both urban and rural populations than any previous study. Using the standard accepted by the United States Bureau of the Census prior to 1930, it is assumed that the urban population is composed of those living in cities of 2,500 population or more and that all others were rural. According to this standard, the urban population included in this survey was 28,694,853, and the rural 15,095,215. The interdepartmental committee survey was confined almost exclusively to urban residents, although the report itself drew many conclusions concerning conditions in rural districts.

Every section of the country was covered. Reports were received from practically every county in eight states. Returns are still being received and the final report will be even more complete in its coverage. The Committee on the Costs of Medical Care studied 39,183 persons and the Interdepartmental Committee obtained information by house-to-house visits from approximately 2,800,000 persons. These previous surveys apparently did not derive data from as many different sources as were used in the American Medical Association study, and they started with the sort of definition of illness already described.

The American Medical Association survey was not designed primarily to produce a statistical report but rather to obtain a consensus of opinion as to the need and supply of medical care, yet it revealed certain statistics of sufficient accuracy to be worthy of presentation. Replies were received from 20,199 physicians and dentists. Many counties did not separate returns from physicians and dentists, and in some localities forms were sent only to physicians. The ratio of returns received from physicians and dentists in counties where a separation was made leads to the conclusion that about 17,000 of the 20,000 forms returned were filled out by physicians. These 17,000 physicians reported giving medical service without charge to 2,611,451 persons. This is a little more than 5 per cent of the population covered by the study. Since the number replying was less than 25 per cent of the physicians covered, we are certainly within safe limits of error if we assume that double this amount of gratuitous service was given in all the physicians' offices and patients' homes during this period. This would mean that 10 per cent of the population was given this type of free service. This same fraction (about 25 per cent) of the total number of physicians gave 1,909,713 hours of service in hospitals and clinics; this service is in addition to the care of patients at home or in physicians' offices. Any sort of calculation based on these

facts demonstrates that the previously used estimate of \$1,000,000 per day of free service by physicians in the United States is far below the actual figures. These preliminary estimates will be revised, if necessary, in the final report. Another and more detailed—and probably more accurate—check of the amount of free services given by physicians will be provided when Forms 1F are completed and tabulated.

The co-operation received from sources other than the medical profession was especially gratifying. Hospitals, nurses, health departments, private or governmental welfare and relief agencies, private and public school systems, universities and colleges, industrial, fraternal, mutual benefit, group hospitalization, and similar organizations, and pharmacists filled out 13,933 forms.

#### WHAT THE REPLIES INDICATE

Next in significance to the comprehensiveness of the sources of information is the unanimity of the replies. If the nurses, hospitals, health departments and relief organizations had differed sharply with the physicians as to the adequacy and accessibility of medical care, there would have been justifiable suspicion of the accuracy of the survey. No such conflict appears in reports from any section of the United States. Whenever physicians report inadequate provision of medical care by relief authorities, this judgment is confirmed by welfare and relief officials. Wherever physicians found difficulty in procuring hospitalization for certain classes, hospital authorities say there are too few beds. When fully 90 per cent of the physicians find that practically every person needing and desiring medical service can obtain it, the hospitals, health departments, nurses and welfare workers confirm this report. The reason for this unanimity is clear. All were dealing daily with different phases of the same set of facts and not with theories. They all saw the same thing, and the reports of what they saw were bound to agree if stated honestly and accurately. Such differences as appear were shared by each category of reporters.

The points of general agreement are also significant. There was almost complete unanimity and universality of opinion that medical services provided by governmental agencies were the ones most apt to be insufficient. Governmental provisions for medical care for the indigent are everywhere inadequate, except as supplemented by gratuitous services of physicians. From many states came complaints of overcrowded facilities for the care of the mentally diseased, the feeble-minded and the tuberculous. For these categories of patients greater expenditures are recommended. School examinations tend to become perfunctory and are not followed by treatment of the defects discovered. This is most frequently explained as being due to indifference or objections of parents to medical care, although there is occasional criticism of lack of interest on the part of school authorities in following up physical examination with action.

To the key question—which the survey was primarily designed to answer—of whether any large section of the population is unable to obtain needed and desired medical care, the answer is so nearly unanimous and universal that it should be considered conclusive. Fully 90 per cent of all the sources consulted reported that they knew of no significant number of persons needing and seeking medical care who were unable to obtain it. Nurses, health departments, relief and welfare workers, school and university authorities, industrial and mutual organizations, and pharmacists were all asked how many, if any, persons of which they had knowledge had been unable to obtain



needed medical care. They were then asked to comment on any such unmet need and offer suggestions as to how it would be met. These suggestions and comments are now being analyzed and compiled, and promise to offer a body of helpful criticisms and proposals of value in developing better plans for providing medical care.

The overwhelming majority of opinions from all sources agree that, far from there being forty million, there are not four million or even one million persons in the United States who are denied needed medical service. Reports of inability of individuals to secure service are usually accompanied by suggestions of changes in the local organization of medical care by which the needed service can be supplied, and there are numerous reports of such changes being made as a result of the survey.

When to those direct and specific facts are added the many comments and suggestions by the most competent body of trained observers on medical conditions in the United States, the total is the most comprehensive and accurate survey of the need and supply of medical care ever collected. While a full analysis and discussion of comments must await the completed report, sufficient study has been made to permit some generalities.

Naturally, only a minority made any comment whatever on the lack of medical services and facilities, and it would seem safe to suppose that lack of comment on this subject indicated a failure to observe sufficient lack of medical care to deserve notice. Much more than a majority of the comments are to the effect that all those who needed and sought medical care received it. Examples of failure to secure such care when needed were usually explained as being due to local conditions not generally difficult to remove. In addition to the inadequacies already mentioned, numerous observers noted the lack of proper accommodations for chronic illnesses, transients and convalescents. Although general proposals for improvements in the organization of medical service were numerous, they formed but a small percentage of all comments. This was especially true of such sweeping recommendations as compulsory health insurance. There were many suggestions that plans of medical societies now under way offered possibility of removing many of the difficulties and that some system of prepayment might be desirable for the low income class.

#### LOCAL TREATMENTS OF THE SURVEY

In the original plan for the survey it was urged that each county medical society appoint a committee to discuss all of the findings and to prepare a report, with recommendations for improvement. There were many county medical societies in which this was done. Some of these committees prepared reports in the form of bound volumes of considerable size and including special types of investigation or material from previous local studies. Such county medical societies found that the survey, when utilized in such a thorough manner, formed a new foundation for local medical progress.

State medical societies were urged to take the county reports, and after adding an analysis of statewide medical activities, to summarize the situation in the entire state and offer suggestions for improvements in medical organization. Some state medical societies deserve special mention for the service which they rendered the medical profession of their own state and of the country in making such a summary. New Jersey may be offered as an outstanding example; its state report forms a large volume which covers every type of medical problem and lays the foundation for further study and for solutions where these are possible. It is

noteworthy that while several states pleaded lack of funds as a reason for not undertaking the thorough analysis, discussion and summary which were urged, New Jersey reports that only about \$1,100 was expended in preparing its report. Examples of studies in individual counties and states have already been published in *The Journal of the American Medical Association*.

Note: This report as compiled by the Bureau of Medical Economics was presented to the House of Delegates, A.M.A., May, 1939, the results of the Survey in Arizona being comparable in virtually every respect to the findings in the nation as a whole.

J. D. HAMER, M. D.,  
Arizona Delegate to A. M. A.

#### AN OPPORTUNITY WORTH UTILIZING

The attention of the Arizona profession is called to the following:

An American Congress on Obstetrics and Gynecology will be held in Cleveland, Ohio, September 11 to 15, 1939, to study present-day problems on obstetrics and gynecology, and to make some attempt at the solution of these problems.

The purpose of the Congress: "To present a program for our present-day medical, nursing and health problems from a scientific, practical educational and economical viewpoint so far as they relate to human reproduction and maternal and neonatal care." It is the desire of the committee on this Congress that all those persons interested in any way in the subject of obstetrics should attend the various meetings or at least contribute to the support of this worthy undertaking. The subjects to be discussed are not entirely medical and considerable time will be given to legal aspects, humanitarian, sociological and ethical aspects of the various subjects under discussion. It is hoped, therefore, that not only will the medical profession itself wholeheartedly enter into this project, but that nurses, public health workers, hospital superintendents and those indirectly concerned may become interested.

The morning sessions will consist of a series of interesting papers followed by a round-table discussion. Both afternoon and evening sessions will be devoted to those subjects closely allied to obstetrics itself, but of particular interest to nurses and public health workers. Elaborate plans have been made for a scientific and educational exhibit, as well as a most complete technical or commercial display.

The membership fee is \$5, which includes a year's membership in the American Committee on Maternal Welfare and registration in the Congress in September. It is hoped that those in our state who have a sincere interest, either directly or indirectly in obstetrical problems, will without delay make application for the Congress.

#### SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

## *Special Section* New Mexico Medical Society

L. B. COHENOUR, M.D., Albuquerque  
Associate Editor

The large registration and attendance was extremely gratifying and flattering to the officers of the Society and the members of the McKinley County Medical Society, who had worked earnestly and assiduously to make the meeting a success, securing well-known men, at tops in their special lines, to give the last word on the advance of medicine and scientific treatment of disease. The consensus of opinion of those in attendance was that it was one of the best meetings ever held by the Society.

In his presidential address (which has already been published in the Journal), Doctor George T. Colvard (Deming) proposed that the House of Delegates of the Society select a committee on "Medical Care and Economics" fully authorized to act for, and endeavor to present a workable solution to the agencies concerned with indigent services.

### ADMITTED TO MEMBERSHIP

Dr. V. E. Franklin, Socorro.  
Dr. G. L. Herman, Socorro.  
Dr. W. E. Nissen, Indian Field Service, Dept. of the Interior.

### OTHER APPLICANTS FOR MEMBERSHIP

Action deferred pending investigation of credentials:

Dr. James P. Turner, Carrizozo.  
Dr. Roy W. Day, Magdalena.

### COMMITTEE APPOINTMENTS AND REPORTS

Committee on Necrology:

Dr. C. A. Miller (Las Cruces), Chairman  
Dr. Ashley Pond (Taos)  
Dr. E. W. Lander (Roswell)

presented Resolution:

"WHEREAS, The New Mexico Medical Society has suffered the misfortune of losing two of its esteemed members by death during the past year,

Therefore, Be It Resolved, That this Society express its sincere regrets and extend its sympathy to the families of the deceased:

Dr. T. C. Sexton, Las Cruces, N. M.  
Dr. H. C. Buchly, Roswell, N. M.

Be It Further Resolved, That this Resolution be incorporated in the minutes of the Society and copies thereof sent to the families of the deceased members.

The wife of our president, Mrs. E. W. Fiske, having died recently, condolences and sympathies are extended to the bereaved family."

Action taken—approved.

Committee on Resolutions:

Drs. Wallace P. Martin (Clovis), Chairman  
Robert O. Brown (Santa Fe)  
Leland S. Evans (Las Cruces)

presented Resolutions:

Resolution No. 1—

WHEREAS, The New Mexico Medical Society is completing its three-day annual convention in the City of Gallup, and

WHEREAS, It has during its stay here, been the recipient of every courtesy and consideration possible, from the El Rancho Hotel and the El Navajo Hotel, which has made its stay more pleasant and more profitable,

NOW, THEREFORE BE IT RESOLVED THAT: The New Mexico Medical Society extends its thanks to the El Rancho Hotel and the El Navajo Hotel

for their many courtesies and outstanding hospitality.

AND BE IT FURTHER RESOLVED, THAT: This Resolution be spread upon the minutes of the meeting of the Society and copy sent to each of the above mentioned Hotels.

Resolution No. 2:

WHEREAS, The Officials of the City of Gallup have contributed immeasurably to the enjoyment of our stay in the City, and

WHEREAS, They have unsintedly given an added measure of consideration for the many infractions of municipal rules and regulations, and

WHEREAS, We are profoundly cognizant of our unworthiness of these many courteous benefactions;

NOW THEREFORE, BE IT RESOLVED: That we do hereby make this feeble effort to repay at least the interest on their doubtful investment in our civic behavior;

AND BE IT FURTHER RESOLVED: That a copy of this Resolution be sent to the Legislative, Judicial and Executive branches of the Municipal Government of the City of Gallup.

Resolution No. 3—

WHEREAS, The McKinley County Medical Society by dint of hard work, coupled with a sincerity of purpose rarely equaled, has cooperatively rendered a program of incomparable benefit to the State Medical Association of New Mexico; and

WHEREAS, They individually and collectively have expressed a quality of fraternal and civic solicitude and hospitality to all members of the medical profession assembled here;

NOW THEREFORE, BE IT RESOLVED: That the sincere appreciation of their efforts and success and accomplishment be and is hereby expressed by the Resolutions Committee; and

BE IT FURTHER RESOLVED: That copies of this Resolution be sent to the President of the McKinley County Medical Society, and a copy retained for the archives of the State Society.

Resolution No. 4—

WHEREAS: The Fifty-seventh Annual Meeting of the New Mexico Medical Society has been characterized not only by a scientific program of great worth, but likewise by outstanding social enjoyment, and

WHEREAS: We as members of the New Mexico Medical Society, appreciate the great contribution made by the ladies to the success of the meeting,

NOW THEREFORE, BE IT RESOLVED, That the New Mexico Medical Society expresses its heartfelt appreciation and thanks to the ladies of the members of the McKinley County Medical Society for their unremitting and very successful efforts, which have so greatly contributed to the success and enjoyment of this meeting.

Signed,

WALLACE P. MARTIN,  
ROBERT O. BROWN,  
LELAND S. EVANS,  
Committee.

New Mexico Medical Society,  
In Annual Session at Gallup, New Mexico,  
May 13, 1939.

Action taken on Resolutions—approved.

Committee Report:

Doctor R. O. Brown (Santa Fe), Chairman of



Committee on Public Policy and Administration, related the activities of the Committee, gave a detailed account of receipts and expenditures, showing a present balance of \$915.96. While, despite the hard, faithful and earnest work of the Committee, little was accomplished in securing the legislation desired, yet it was felt that there was a measure of success in that the defeat was secured of the proposed "licensing" of one of the so-called healing professions.

The House of Delegates considered it advisable that the work of the Committee be continued, and provided that funds be raised for the purpose by increasing the membership admission fee and annual dues from \$5.00 to \$10.00 each.

#### Committee Appointment—

Committee on Medical Economics and Care:

Dr. J. W. Hannett, Albuquerque.

Dr. L. B. Cohenour, Albuquerque.

Dr. Wallace Martin, Clovis.

#### OTHER BUSINESS TRANSACTED

Motion passed that membership admission fee and annual dues be raised from \$5.00 to \$10.00 each and that Article 11, page 6 of the Constitution and By-Laws, and page 10, Section 4, wherein it is stated these shall be \$5.00, be changed accordingly.

Motion passed that a Committee of three be appointed, to include the President as ex-officio member, on Medical Economics and Care.

Motion passed that the Legislative Committee be instructed to ask and work for the repeal of the tax on professional income, as regards the application of the two per cent sales tax to the profession.

Motion passed that the State Dental Society be invited to participate in the next Annual Meeting to be held in Albuquerque and have a dental speaker on the program.

Motion passed that the Secretary be authorized to purchase a new typewriter.

Motion passed that copies of a Resolution passed by the Society at the Annual Meeting held in Clovis in 1937, defining the activities of the health officers and line of demarcation drawn, be made and mailed to every Doctor in the State and also to each health officer. The Resolution follows:

#### CO-OPERATION WITH THE STATE DEPARTMENT OF PUBLIC HEALTH.

"WHEREAS, there has been in the past a lack of clarity or a turbulence of opinion of the definition of the duties of the State Department of Public Health incident to the proper protection of our citizens in matters of health and sanitation, and in an effort to bring about a closer relationship between the State Department of Public Health and the members of the Medical Association and a more thorough cooperation and coordination of effort, now therefore, be it

**RESOLVED,** That the members of this State Medical Association shall at all times hold themselves in readiness to assist and cooperate with the State Department of Public Health in all matters of Public Health and Sanitation. That the members of this State Association shall meet with the local, district or State health authorities and advise with and assist in all manners possible and consistent with the ethics of the medical profession. That the members of this State Medical Association will, whenever necessary, assist in forming and form, in their own particular districts, such educational, examination, vaccination and treatment procedures as are deemed necessary for the treatment of indigents and the control of epidemics or disasters. That the members of this State Medical Association will assist in every possible manner the education of the public in all health and sanitation matters. That the members of this State Medical Association shall, by their efforts, try to overcome the indif-

ferences and apathy to the reporting of communicable diseases and to the proper conduct of quarantines and the enforcement of the laws regarding the same. That the members of this State Medical Association will render every assistance to the physicians and nurses of the State Department of Public Health in the ascertaining of the financial status of the citizens of their districts and the determination of who are and who are not to be classed as indigents. That the members of this State Medical Association shall especially cooperate with and assist the State Department of Public Health in the formation of clinics for the examination and education of the public, in their districts, in venereal diseases and the treatment of venereal indigents. That the members of this State Medical Association pledge themselves to answer the call of the State Department of Public Health, whenever possible, in cases of major epidemics or public disasters, and to do everything in their power to render assistance until the period of emergency has passed.

Be It Further Resolved, That it is the opinion of the members of this State Medical Association that the Director of the State Department of Public Health and all of his assistants should confer with and cooperate with local physicians of each district, county or community in matters pertaining to health and sanitary conditions in such district, county or community. That it is the opinion of the members of this State Medical Association that the State Department of Public Health should furnish such vaccines as are required for indigents and for indigents only. That the State Department of Public Health shall conduct quarantine and see that the laws regarding quarantine and the reporting of reportable diseases are enforced. That the State Department of Public Health shall have the regulation of Public Health measures in the schools and shall, with the cooperation and assistance of the local physicians conduct such examinations, vaccinations and clinics as may be deemed necessary in each particular community. That the State Department of Public Health shall form, from local

#### MEMBERSHIP REPORT OF SECRETARY-TREASURER DR. L. B. COHENOUR. NEW MEXICO MEDICAL SOCIETY Office of the Secretary, Albuquerque, New Mexico

May 11, 1939.  
Gallup, New Mexico.

#### FIFTY-SEVENTH ANNUAL SESSION

House of Delegates:

Gentlemen:—

I hereby render a report of the affairs of the office of Secretary-Treasurer for the term ending with this session:

At the meeting held in Santa Fe, New Mexico, June 6th, 1938 there were no members dropped for non-payment of dues.

Members in the Society at this time are as follows:

	1938	1939
Bernalillo County	49	49
Chavez County	17	16
Colfax County	16	14
Curry County	13	15
Dona-Ana County	13	13
Eddy County	11	15
Grant County	9	10
Luna County	5	6
Lea County	14	11
McKinley County	12	12
Quay County	8	6
San Miguel County	10	8
Santa Fe County	16	19
Taos County	4	4
Union County	6	2
Members-at-large	23	21
Total in good standing at this date.		221

Five applications for membership were received to be presented at this meeting and to be acted upon by the council.

Death of two members was noted as follows:

Dr. T. C. Sexton, Las Cruces, N. M. .... Feb. 22, 1939  
Dr. H. C. Buchly, Roswell, N. M. .... Jan. 20, 1939

Respectfully submitted,

(Signed) L. B. COHENOUR, M. D.,

LBC-em.

Secretary-Treasurer.

physicians, such venereal clinics as may be necessary for the diagnosis and treatment of venereal indigents and the education of the general public in the gravity of present venereal disease prevalence. That it shall be the duty of the State Department of Public Health to conduct, with the assistance of the local physicians, educational campaigns and clinics in obstetrical and child health and hygienics.

Be It Further Resolved, That in the event of differences of opinion between members of this State Medical Association and members of the State Department of Public Health, that such differences of opinion be submitted to the Committee on Public Relations of this State Medical Association who shall in turn adjust matters with the State Department of Public Health."

(Above Resolution adopted at Annual Meeting held at Clovis, N. M., adjourned May 15, 1937.)

#### SECRETARY-TREASURER FINANCIAL REPORT Fifty-Seventh Annual Session

Council New Mexico Medical Society:

Gentlemen:

I hereby submit a report of the financial affairs of the New Mexico Medical Society, ending this date:

Balance on hand at annual report, June 6, 1938.....	\$3037.49
Delinquent dues collected from 16 members.....	160.00
Annual dues collected from 221 members for 1938.....	2210.00
Total cash received to May 11, 1939.....	5407.49

#### DISBURSEMENTS

Reporter for 1938 meeting, balance of one-half fee.....	\$ 75.00
Secretary's salary for 1938-1939.....	300.00
Treasurer's bond for 1938-1939.....	5.00
Southwestern Medicine for 226 members for 1938.....	452.00
Legislative fund \$5.00 per member.....	1130.00
Walsh Printing Co. (1000 letter heads).....	7.25
American Medical Association (1938 Directory).....	15.00
Legislative fund for (Drs. Wellman, Amble, Campbell & McCreary).....	20.00
Strong's Book Store (Account Book, ledger).....	5.71
Legislative Fund for (Drs. Meacham, Hubbard, Funk, Sheridan, Barnes).....	25.00
Legislative Fund for (Drs. Rice, J. R. Scott).....	10.00
Southwestern Medicine per capita for 1938: 11 members.....	22.00
Legislative Fund for (Drs. McGee, Gregory & Merrill).....	15.00
Southwestern Medicine per capita 1938 for 3 members.....	6.00
Walsh Printing Co. (500-3c stamped envelopes).....	18.37
Legislative Fund 1939 for 122 members advanced to Dr. Brown.....	610.00
Reporter to State Meeting one-half in advance.....	75.00
Legislative Fund 1939 for 85 members.....	425.00
Legislative Fund 1939 for 14 members.....	70.00
Total.....	3286.33
Balance.....	2121.16

#### OUTSTANDING INDEBTEDNESS

Southwestern Medicine for 1939 for 221 members.....	\$ 442.00
Secretary's Salary for 1939-1940.....	300.00
Reporter for 1939 meeting, balance in full.....	75.00
Treasurer's bond for 1939-1940.....	5.00
Approximate total indebtedness.....	822.00
Expected balance after all bills are paid.....	1299.16

Respectfully submitted,

(Signed) L. B. COHENOUR,  
Secretary-Treasurer.

President-elect—Dr. W. B. Cantrell, Gallup.  
Vice-President—Dr. W. P. Martin, Clovis.  
Secretary-Treasurer—Dr. L. B. Cohenour, Albuquerque (Re-elected).

Councillors for Three Years:

Dr. R. L. Bradley, Roswell.

MEETING PLACE 1940—Albuquerque.

Board of Managers, Southwestern Medicine:

(Appointed by the Council)

Dr. George T. Colvard, Deming.

Dr. W. B. Cantrell, Gallup.

Delegates Appointed:

To A.M.A.—Dr. H. A. Miller, Clovis.

Dr. R. A. Brown, Santa Fe.

To Texas—Dr. C. A. Miller, Las Cruces.

To Colorado—Dr. C. H. Gellenthien, Valmont.

To Arizona—Dr. Leland S. Evans, Las Cruces.

#### SOCIAL FEATURES

On Thursday evening, a buffet dinner was given at the El Navajo Hotel in honor of the visiting physicians and their ladies. An elaborate tasty repast tickled the palates of the guests, while rare liquid refreshments served to assuage the dry thirst accumulated during an afternoon of scientific discourse. Moving pictures of the Inter-Tribal Indian Ceremonial were shown, after which the ladies were politely but firmly invited to leave, as the annual Smoker of the Association is strictly a stag affair. Musical and tap dancing numbers were then staged by the Entertainment Committee, and shortly before the approach of the zenith hour, a short session of glamorous swing provided a pleasing eyeful.

On Friday evening, the annual dinner dance was held at the Hotel El Rancho and proved to be a very delightful affair. The guests were also entertained by a group of Taos Indian dancers from Fort Wingate in the hotel lobby.

The visiting ladies were entertained at luncheon, given opportunity to visit Indian trading posts in the vicinity, including a trip to Zuni, and thoroughly enjoyed the thoughtful courtesies and attentions prepared by the Women's Entertainment Committee, of which Mrs. J. W. Stofor was Chairman.

Those registered were:

Drs. Accardi, Vincent, Gallup, New Mexico.  
Anderson, Nelson Paul, Los Angeles, Calif.  
Armistead, E. K., El Paso, Texas.  
Arnold, Charles H., Lincoln, Neb.  
Anthony, William D., Gallup, New Mexico.  
Austin, Frank H., Carlsbad, New Mexico.  
Armstrong, J. R., G. E. X-ray Corp.  
Beaver, E. B., Gallup, New Mexico.  
Brown, Robert O., Santa Fe, New Mexico.  
Brewer, A. E., Tucumcari, New Mexico.  
Burge, Charles, Dallas, Texas.  
Bank, Joseph, Phoenix, Arizona.  
Broover, Edward B., Gallup, New Mexico.  
Bowen, Sarah, Dixon, New Mexico.  
Barnes, D. K.  
Burnett, A. L., Durango, Colo.  
Best, R. R., Omaha, Nebraska.  
Bechtold, F. E., Santa Fe, New Mexico.  
Ballinger, I. B., Albuquerque, New Mexico.  
Bennett, J. Travis, El Paso, Texas.  
Campbell, E. A., Albuquerque, New Mexico.  
Conner, Paul J., Denver, Colo.  
Cornish, P. G., Albuquerque, New Mexico.  
Cantrell, W. B., Gallup, New Mexico.  
Culpepper, M. B., Carlsbad, New Mexico.  
Cohenour, L. B., Albuquerque, New Mexico.  
Corr, Philip, Riverside, Calif.  
Colvard, George T., Deming, New Mexico.  
Crumper, W., Pueblo, Colo.  
Coogan, A. S., Crown Point, New Mexico.  
Daniel, W. H., Los Angeles, Calif.  
Donlin, V. G., Albuquerque, New Mexico.  
Evans, Leland, Las Cruces, New Mexico.  
Elliott, W. M., Durango, Colo.  
Epler, Crum, Pueblo, Colo.  
Fiske, E. W., Santa Fe, New Mexico.  
Finney, R. H., Pueblo, Colo.  
Goodwin, Frank, El Paso, Texas.  
Godfrey, E. B., Santa Fe, New Mexico.  
Gore, George J., Albuquerque, New Mexico.  
Glasier, W. F., Carlsbad, New Mexico.  
Goubeaud, H. J., Brooklyn, New York.  
Green, Chester P., Denver, Colo.  
Gibbs, R. B., Lederle Labs.  
Gallagher, Paul, El Paso, Texas.  
Hutton, J. G., Denver, Colo.  
Hall, H. H., Phoenix, Ariz.  
Heller, F. M., Pueblo, Colo.  
Harris, J. E. J., Albuquerque, New Mexico.  
Horgan, J. C.  
Hannett, J. W., Albuquerque, New Mexico.  
Jackson, G. E., Los Angeles, Calif.  
Johns, E. W., Albuquerque, New Mexico.  
Johnson, H. B., Hot Springs, New Mexico.  
Kent, George B., Denver, Colo.  
Kingsley, M., Albuquerque, N. M.  
Lathrop, A. L., Santa Fe, N. M.  
Lovelace, W., Albuquerque, N. M.  
Lamson, R. W., Los Angeles, Calif.  
Lander, E. W., Roswell, N. M.  
Miles, L. M., Albuquerque, N. M.  
McAlmon, George, El Paso, Texas.  
MacWhorter, J. H., El Paso, Texas.



Multhauf, A. W., El Paso, Texas.  
 Minas, V. N., Santa Fe, N. M.  
 Monaco, D. F., Gallup, N. M.  
 Miller, C. A., Las Cruces, N. M.  
 Martin, Wallace, P., Clovis, N. M.  
 Morris, J. W., Safford, Arizona.  
 McCormick, D. M., Gallup, N. M.  
 Miller, H. O., Clovis, N. M.  
 Mendelsolm, R. W., Albuquerque, N. M.  
 Nugent, Oscar F., Chicago, Ills.  
 Newquist, W. N., Chicago, Ills.  
 Orndorff, B. H., Chicago, Ills.  
 Owens, R. W., Salt Lake City, Utah.  
 Palmer, E. Payne, Phoenix, Arizona.  
 Palmer, E. Payne, jr., Phoenix, Arizona.  
 Pangman, John, El Paso, Texas.  
 Phelan, Pat., Gallup, N. M.  
 Ponsma, R. H., Rehoboth, N. M.  
 Pond, Ashley, Taos, N. M.  
 Patterson, E. A., Albuquerque, N. M.  
 Potter, Samuel B., Pueblo, Colo.  
 Paup, M. K., Kingman, Arizona.  
 Rennick, Charles F., El Paso, Texas.  
 Robinson, W. B., Phoenix, Arizona.  
 Rowe, Lyman, Phoenix, Arizona.  
 Rolla, D.  
 Riley, R. M., Albuquerque, N. M.  
 Rosenbaum, M., Albuquerque, N. M.  
 Salsbury, C. G., Ganado, N. M.  
 Spinning, W. D., Ganado, N. M.  
 Stuck, Ralph M., Denver, Colo.  
 Spearman, M. P., El Paso, Texas.  
 Smith, J. F., Gallup, N. M.  
 Safford, H. T., El Paso, Texas.  
 Stofer, J. W., Gallup, N. M.  
 Stone, C. S., Hobbs, N. M.  
 Schmutzler, Chris, Jr., Denver, Colo.  
 Slater, L. S., Los Angeles, Calif.  
 Scott, T. C., Lederle Labs.  
 Turner, E. W.  
 Turner, George, El Paso, Texas.  
 Thompson, Harold, Los Angeles, Calif.  
 Travers, P. L., Gallup, N. M.  
 Thomas, C. A., Tucson, Arizona.  
 Thompson, L. A., Springer, N. M.  
 Voorhees, L. G., Santa Fe, N. M.  
 Ward, E. L., Santa Fe, N. M.  
 Watson, H. T., Gallup, N. M.  
 Williams, D. B., Santa Fe, N. M.  
 Werley, G., El Paso, Texas.  
 Wylder, M. K., Albuquerque, N. M.  
 Wright, M. G., Winslow, N. M.  
 West, Howard F., Los Angeles, Calif.  
 Womack, C. L., Carlsbad, N. M.  
 Worthington, H. M., Roswell, N. M.  
 Werner, Walter I., Albuquerque, N. M.  
 Woolston, W. H., Albuquerque, N. M.  
 Watts, R. E., Silver City, N. M.  
 Whitted, W. P., Gallup, N. M.  
 Yeager, V.

## LADIES REGISTERED

Austin, Mrs. Frank H., Carlsbad, N. M.  
 Anthony, Mrs. W. D., Gallup, N. M.  
 Brown, Mrs. R. O., Santa Fe, N. M.  
 Beaver, Mrs. E. B., Gallup, N. M.  
 Burnett, Mrs. A. L., Durango, Colo.  
 Bouba, Mrs. H. H., Gallup, N. M.  
 Culpepper, Mrs. M. B., Carlsbad, N. M.  
 Corr, Mrs. Philip, Riverside, Calif.  
 Cantrell, Mrs. W. B., Gallup, N. M.  
 Donlin, Mrs. V. G., Albuquerque, N. M.  
 Elliott, Mrs., Durango, Colo.  
 Glasier, Mrs. W. F., Carlsbad, N. M.  
 Goubeaud, Mrs. H. J., Brooklyn, N. Y.  
 Gallagher, Mrs. Paul, El Paso, Texas.  
 Gibb, Mrs. R. B., Albuquerque, N. M.  
 Hall, Mrs. H. H., Phoenix, Arizona.  
 Hannett, Mrs. J. W., Albuquerque, N. M.  
 Johnson, Mrs. H. B., Hot Springs, N. M.  
 Lander, Mrs. E. W., Roswell, N. M.  
 Lathrop, Mrs. A. S., Santa Fe, N. M.  
 Minas, Mrs. V. N., Santa Fe, N. M.  
 Miles, Mrs. Lee M., Albuquerque, N. M.  
 Monaco, Mrs. D. I., Gallup, N. M.  
 McComack, Mrs. D. M., Gallup, N. M.  
 Nugent, Mrs. O. B., Chicago, Ills.  
 Pousma, Mrs. R. H., Rehoboth, N. M.  
 Palmer, Mrs. E. Payne, Phoenix, Arizona.  
 Stofer, Mrs. J. W., Gallup, N. M.  
 Schmutzler, Mrs. Chris, Denver, Colo.  
 Salsbury, Mrs. C. G., Granada, N. M.  
 Thomas, Mrs. C. A., Tucson, Arizona.  
 Thompson, Mrs. L. A., Springer, N. M.  
 Turner, Mrs. George, El Paso, Texas.  
 Travers, Mrs. P. L., Gallup, N. M.  
 Voorhees, Mrs. L. G., Santa Fe, N. M.  
 Worthington, Mrs. W. N., Roswell, N. M.  
 Wright, Mrs. M. G., Winslow, Arizona.  
 West, Mrs. Howard, Los Angeles, Calif.  
 Watson, Mrs. H. T., Gallup, N. M.  
 Williams, Mrs. D. B., Santa Fe, N. M.  
 Whitted, Mrs. W. P., Gallup, N. M.

# EL PASO TUMOR CLINIC REPORTS

June 13, 1939  
 El Paso City-County Hospital  
 DR. L. M. SMITH, Presiding.

## CASE I.

Dr. R. P. Hughes: This man (A. H.), 22 years old, has a mole here on the right side of the nose which he thinks has been there for 18 years. He says it has been growing more recently. Two or three weeks ago he developed a little infection, probably underneath the mole, from which there was some pustular discharge. It seems now that there is a little cystic area underneath there. The problem here is one of accurate diagnosis and recommendation as to treatment, whether it should be widely excised or destroyed like most of these moles are. There seems to be some definite pigment in the outer layer that does not disappear on pressure, and it does not seem to be a vascular type of discoloration such as you get in a vascular nevus.

Dr. W. W. Waite: You might as well remove it locally, with a small amount of tissue, as to take a large amount, because if the growth is malignant the malignancy has already metastasized and you can't do it any good.

Dr. J. W. Cathcart: I would favor using novocaine and dissecting it, and I think you get the nicest scars if you give one radiation afterward. I do not regard this as malignant. (In reply to a question.) Dissect with high frequency.

Dr. Louis F. Hamilton: Since I am probably going to be the one to take it out, I would like to take out a piece about the size of a dime and put in a skin graft from behind the ear.

Dr. Leslie M. Smith: The ordinary brownish mole is not dangerous unless subjected to irritation, but these blue-black pigmented moles are definitely more dangerous. I think it should be either left entirely alone or fairly widely destroyed. Like Dr. Cathcart, I think this thing is benign at present, but it has possibilities of malignant degeneration. As far as taking out a small piece, the tampering with it and incomplete removal might cause malignancy. These nevus cells have been found a considerable distance out further than the visible pigment. I think that if it is destroyed at all it should be fairly widely destroyed. It is not where it is likely to be irritated much, and I think it would be well to leave it alone except for the fact that it has been inflamed and irritated recently.

Dr. Cathcart: The cosmetic effects following wide removal should also be considered.

Dr. Smith: I think so, too, but that is secondary. I think you could widely excise and suture and get a pretty good result. Even at that, I think a fairly wide excision—not a great big destruction, but a little distance beyond the visible edge of the thing—with coagulation, would give a pretty good cos-

metic result. If the scar should be a little hypertrophic some X-ray would benefit it. If it were my nose and had been inflamed recently I would want the growth radically destroyed, regardless of the scar.

Dr. Hughes: Some recommend radium before and after excision.

Dr. Smith: I think that's all right, except that these things are not very radio-sensitive.

Dr. Hamilton: What is the objection to widely excising and putting in a skin graft?

Dr. Russell Holt: The cosmetic effect.

Dr. Smith: Personally, I prefer to leave them wide open to granulate where I can watch them.

Dr. Cathcart: That thing is not skin deep; it is just on the surface. I think you have a little sebaceous-gland infection underneath it, and that is likely to recur.

Dr. Smith: You get a chronic inflammation like that, which is certainly not a good condition. I think it should be destroyed, by electro-desiccation—either destroyed thoroughly or left alone entirely.

#### CASE II.

Dr. Hughes: This man, 66 years old, has what is apparently a basal-cell epithelioma of the right side of the scalp. He was seen here at the clinic in 1933, at which time he had a lesion there about the size of a 25 cent piece, and he was referred for X-ray at that time. He received his first treatment with X-ray in August of 1933. Then he did not show up any more until September 25 (about a month later), when he received his second treatment. Then no more was heard from him until two years later. He said that following the second treatment it got a great deal better and he thought it was going to get well. At this time he had a lesion in the edge of the scar. He was started on X-ray again and received a treatment at that time, in September, 1935; another one the latter part of the same month, then no more until December, 1935, and another one in the same month. He has had a total of about 3600 r. units. Some of it has been filtered and some unfiltered. But they were scattered out over a period of about two years and a half. He had not had any treatment since December of 1935, until last week, when we gave him a treatment of 600 h. units. There was a period of about three years and a half in which he had no treatment, and it has been continuously growing all that time and he has been treating it with home remedies. Biopsy at the time he was in before showed a basal-cell epithelioma, and biopsy this last time still showed basal-cell epithelioma. We have made a plate of the skull to see if there is any bone involvement. There is none.

Dr. Cathcart: This case is typical of a large number of these basal-cell epitheliomas that you encounter around the face and forehead and in that region. They are radio-sensitive; they heal up and then after a year or two years they begin to break out around the margin and you have them back. Some of them just simply will not stay healed. You think you have them all healed up, and then

you get a breaking-down at one of the borders. They never cause any trouble as long as they remain basal, but they do frequently degenerate into a squamous-cell type, and then is when your trouble starts. The thing to do is get them cleaned up, and perhaps the borders should be burned.

Dr. L. O. Dutton: I would like to emphasize Dr. Cathcart's suggestion about it degenerating into a squamous-cell. You have to watch them very closely.

Dr. R. B. Homan, Jr.: Will someone give a differential diagnosis? What other things might have been thought of when it was first seen?

Dr. Smith: There aren't many other things that it could have been thought.

Dr. Hughes: One fairly typical thing about these is that almost all of them have a rolled edge.

Dr. Smith: You would have to consider gumma; and you have to do a biopsy to tell the difference. Of course, it has a sharp border, like a broken-down gumma, but it is a neoplasm. The first thing to think of would be an epithelioma, but you would have to back this up by biopsy. This patient was very irregular about his treatment. The idea we have now is to give him thorough irradiation.

Dr. Waite: There are no bone changes in the X-ray of the skull. (X-rays were shown.)

Dr. Cathcart: I would recommend curetting and cauterizing that border, that is, destroy the border first. Basal-cell does not require much radiation, and I think the cauterization will do more good.

Dr. Smith: Originally the thing was quite radio-sensitive, but he did not get enough of it because he did not show up. It may be less radio-sensitive now.

Dr. Hughes: In case it is radio-resistant now and does not respond to a reasonable amount of X-ray, what do you think of just excising it wide of the margin with the electro-cautery current?

Dr. Cathcart: Yes, and curette it away, too.

#### CASE III.

Dr. Glasier: This girl, 23 years old, came in first in October of 1935, with a history of swelling and tenderness in breasts, duration 18 months. About 18 months previous she had first noticed a small nodular swelling, about the size of a bean, in the right breast. This swelling was slightly tender and gradually increased in size. After a few months the patient noticed a similar swelling in the left breast. The swelling and tenderness would increase slightly during menstruation. The swelling at time of admission to hospital were about the size of a walnut. The patient was unmarried, a beauty operator by trade. Physical examination at time of admittance revealed nothing abnormal except the firm nodule about the size of a walnut in the upper part of each breast, freely moveable and tender.

On October 18, 1935, 2 days after admittance, the patient was taken to the operating room, and after the usual preparation of the skin an incision about four inches in length was made over the outer border of the left breast. The mammary fat was



pushed aside, and hard, fibrosed tissue could be felt below this fat. Strands of this fibrous tissue radiated in every direction within the gland and toward the nipple. About one ounce of this fibrous tissue was dissected from the breast. The whole amount was not removed because of the extensive involvement of the breast and the desire for pathological diagnosis before further procedure. The deep tissues were approximated with catgut, the skin closed with dermal sutures, and a drain left in. The laboratory on microscopic examination made a diagnosis of adenofibroma.

In November of 1935 Dr. Gambrell did a left mastectomy and excised the fibroma of the right breast.

She came into the hospital again in August of 1936 with a history of mass in the right breast for about two months. Physical examination revealed a small mass in the right breast about the size of a walnut, which was removed by Dr. Holt in August 20, 1936.

This patient now returns to the clinic with a recurrence of the mass in the right breast, and wants the breast removed. There is no pain or itching. All other systems are negative. X-ray of chest negative. No history of soreness or tenderness at menstrual periods, and no history of trauma at any time.

She says now that she wants the breast removed; she does not want the nodule taken out as she thinks it will recur. (In answer to a question.) The complete removal of the left breast was done because there were about three nodules in there, almost covering the entire breast.

Dr. Holt: The tumor now is large, about the size of a lemon, freely movable, not attached to the skin, nor does it seem to be attached to the other breast tissue. My impression is that of adenofibroma, and I see no reason for taking the breast off. I think a biopsy should be done.

Dr. R. B. Homan, Jr.: It keeps recurring. This is the third one in that breast. The girl says she wants it off, because she thinks it will recur again. I think it is not malignant, but I think she might as well have it removed.

Dr. Green: I think it is an adenofibroma. I see no reason for removing the whole breast.

Dr. Cathcart: I'll tell you what they are doing at Memorial Hospital: On all these breast cases, that is, on all tumors of the breast, they do an aspiration biopsy with a 17-gauge needle. This woman is now 23 years old. Most of these cases develop before that age. This is not a recurrence that she has, but a new tumor. I think she has about reached the stage where she won't have any more of them. In other words, the chance of developing new tumors is less now than it was four years ago. At Memorial they ran over 7,000 biopsies with the needle and they tell me that they are 75% accurate.

Dr. Waite: You can guess that close.

Dr. Cathcart: I do not think so. They don't consider a negative as of any value. They go ahead

then and treat with irradiation, or surgery, or whatever they think the patient needs and wants.

Dr. Green: In many cases, even where we have a pretty large section of tissue, as in biopsies of the cervix, the laboratory reports nothing found, when later operation discloses pathology, and I can't see how they can tell much from the little bit of tissue they can get with a needle.

Dr. Smith: How often does adenofibroma become carcinomatous?

Dr. Waite: Not very often.

Dr. Cathcart: Not at her age, as a rule.

(An opinion was asked for as to whether or not the breast should be removed.)

Dr. Cathcart: I think that is a part of her endocrine system and should be left.

Dr. Branch: She will get married some day and have a child, and if so it may mean the life of the child to have it breast-fed.

Dr. Newman: I rather agree with Dr. Bob Homan, in view of the trouble she has had in the past. I do not think this breast would have much milk supply on account of the scars. I would be in favor of removal.

Dr. Dutton: I feel like Dr. Cathcart, that she has probably gone through most of her cycle of forming new tumors. I see no reason for removal of the breast from a strictly medical standpoint.

Dr. Waite: The breast has already been badly mutilated and I do not think it would be very much good.

Dr. Gorman: I would leave the breast and take out the mass.

Dr. Littell: I think she should be observed, and perhaps the breast will have to be removed at a later time, but for the present just take out the tumor.

Dr. Hamilton: I say take the breast off.

Dr. Glasier: I agree with Dr. Hamilton.

Dr. W. W. Britton: There is plenty of time to take it off later, if necessary.

## COMMUNICATIONS

Sir:

This is to inform you of the new "CANNED FOOD REFERENCE MANUAL" which is being sent to you, under separate cover to acquaint you with the contents.

Several decades ago, progressive forces within the canning industry realized the necessity of a better popular understanding of the nutritive values and wholesomeness of commercially canned foods. Since that time much educational publicity on canned foods has been issued for the benefit of the layman consumer.

Less than five years ago, it was found essential to provide more technical information for the professions. Consequently, in 1935, the American Can

Company inaugurated its present practice of issuing each month in the journals serving the medical, dental, nursing, dietetic and home economics professions, a factual release covering in technical vein some phase of canned food knowledge. The great demand for some type of publication which would bring all these releases together within one binding, was met first by publication of "Facts About Commercially Canned Foods" in 1936, and later by issuance of "Nutritive Aspects of Canned Foods" in 1937. The present text has been prepared to amplify and extend, rather than to replace, the above prior publications.

Very sincerely yours,

GEORGE W. COBB, Jr.

Sir:

This year the Western Branch of the American Public Health Association, representative of the eleven western states, the three western provinces of Canada and the territories of Alaska and Hawaii, will meet in Oakland, California, July 23 to 28.

A program of outstanding interest, not only to public health workers, but to physicians, social workers and educators as well, has been prepared. Important features will be a health education symposium and a panel discussion on government and medicine.

Both the advent of the Sixth Pacific Science Congress, with which group several joint sessions will be held, and the Golden Gate International Exposition on Treasure Island are expected to add greatly to the attendance at this meeting.

Sincerely yours,

W. P. SHEPARD, M. D.,

Secretary.

## NEWS

### General

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the Secretary before August 20, 1939, for the October 16, 1939, examination, and on or before January 1 for the February 19, 1940, examination.

Application forms may be obtained from Dr. William S. Middleton, Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin.

The University of Wisconsin Medical School is to conduct an Institute for the Consideration of the Blood and Blood-Forming Organs, September 4-6, 1939. The program is to include papers and round-table discussions by European and American workers in the field of hematology.

A detailed program may be obtained by address-

ing Dr. Ovid O. Meyer, Chairman of Program Committee, University of Wisconsin Medical School, Madison, Wisconsin.

The ninth annual Convention of the Biological Photographic Association will be held September 14-16, at the Mellon Institute for Industrial Research, Pittsburgh, Pa. The program will be of interest to scientific photographers, scientists who use photography as an aid in their work, teachers in the biological fields, technical experts and serious amateurs.

Further information about the Association and the Convention may be obtained by writing the Secretary of the Biological Photographic Association, University Office, Magee Hospital, Pittsburgh, Pennsylvania.

The eighteenth annual session of the American Congress of Physical Therapy will be held September fifth to eighth, 1939, at the Hotel Pennsylvania in New York City. An instruction seminar in physical therapy for physicians and technicians will precede the sessions, beginning August thirtieth. Complete information may be obtained from the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Ill.

The American Public Health Association recently adopted five reports dealing with educational qualifications of public health statisticians, school health educators, public health engineers, sanitarians, and sub-professional field personnel in sanitation. The reports are distributed free of charge. Copies may be secured from the Book Service, American Public Health Association, 50 West 50th Street, New York, N. Y.

A one-reel motion picture entitled "Footsteps," portraying the training of the Red Cross Nurse and the work she performs, has been prepared for free distribution by the American Red Cross. The purpose of the film is to acquaint the public with the scope and nature of the activities of the Red Cross. The film is available for free loan to churches, colleges, schools, clubs, and other organizations, and may be had in standard 35 mm. or 16 mm. size. The film may be obtained without cost (except for slight transportation charge) by writing to Douglas Griesemer, director of public relations, American Red Cross, 19 East 47th Street, New York, N. Y.

A two weeks course in electrocardiography is to be given at Michael Reese Hospital, Chicago, August 21 to September 2, under the direction of Dr. Louis N. Katz. Complete information may be obtained by writing to the Cardiovascular Department of the hospital, 29th and Ellis Avenue, Chicago.

### El Paso

A regular meeting of the Tumor Clinic was held Tuesday, June 13, 1939, at 1:00 p. m., at City-County Hospital. Dr. Leslie M. Smith presided.



Dr. Louis Breck has recently been certified by the American Board of Orthopedic Surgery, following the session of the examiners during the American Medical Association meeting in St. Louis.

Dr. Domitilo Rodarte, 65, who practiced in El Paso and Juarez for 36 years, died May 31, 1939. Dr. Rodarte is survived by his widow, Mrs. Anna Torres Rodarte; three sons, Dr. Ruben B. Rodarte and Delta Ignacio Rodarte of El Paso, and Dr. Jose Rodarte of Tempo, Mexico; a daughter, Mrs. Bradley Roe of El Paso; two brothers, Luis Manuel Rodarte of El Paso and Ignacio Rodarte of Mexico City, and a sister, Mrs. Rizeca Torres of Juarez. Dr. Rodarte received his medical degree at the University of Mexico in 1901.

The regular dinner and Staff meeting of the Southwestern General Hospital was held Thursday, May 25, 1939, at 6:30 p.m., in the Hospital Auditorium. The Scientific Program was as follows:

"Exploratory Laparotomy for Obstructive Symptoms," by Dr. Hal Gambrell; Discussion, Dr. John Hardy.

"Case Report", Dr. M. S. Molloy; Discussion, Dr. D. von Briesen.

## MISCELLANY

### BRANDING AS ILLEGITIMATE

Henceforth El Paso physicians in childbirth cases must note on each birth certificate whether the child is legitimate or illegitimate, according to notification given by City-County Registrar Powell.

He has a new supply of forms, containing the question of legitimacy, and has requested that doctors destroy the old forms.

Although this is a foul requirement, the registrar is not to be blamed therefor. He is following a recent ruling by the attorney general's department that the status of legitimacy of each newly born child must be established.

The ruling may or may not be in conformity with law. Whether or no, it is bad public policy:

\* \* \* \*

No baby should be officially branded, in public records, as illegitimate. In no other respect is there so appropriate an application of the generally-endorsed principle that "there is no illegitimate child, only illegitimate parents." And to fasten that stigma in the public records upon a child who is innocent, no matter what the parents may be, is an act of cruelty and injustice.

Furthermore, one wonders how many physicians will care to risk the possible legal consequences of certifying a child as illegitimate—a certification which under some circumstances might be subject to challenge in court at some later time.

For registration purposes it ought to be sufficient

for the physician to give the name of the mother, omitting the name of the father if the name be unavailable. In any case of an unmarried mother, the physician would be running a legal risk if he placed in the birth certificate the name of any man the mother cited as the child's father.

—*El Paso Times.*

### THE DOCTOR'S WIFE

She must not know the meaning of the word "jealous."

She must never gossip.

She must run a cafeteria, serving meals at all hours for her husband.

She must be—like Caesar's wife—above reproach.

She must have self-reliance and self-control.

She must be able to think quickly and sanely in emergencies.

She must be a diplomat, see all, hear all, say a lot, yet say nothing.

She must learn to bear, stoically and without complaint, disappointment in her personal plans.

She must be a good mother and father, because doctors are often too busy to discipline their own children.

She must be a good "doctor," because doctors never take time to doctor themselves.—*Wichita Med. Bulletin.*

### VOMITING IN INFANCY. FREQUENT CAUSES ARE:

1. Overdistention of the stomach due to swallowed air.
2. Too frequent feeding.
3. Too large volumes of food.
4. Unsuitable composition of the food.
5. Parenteral infections.
6. Habit of "nervous" vomiting (rumination).
7. Gastro-enterospasm.
8. Pyloric stenosis.
9. Miscellaneous abdominal conditions (appendicitis, intestinal obstruction, congenital deformities of the gastro-intestinal tract).
10. Anhydremia.
11. Intracranial conditions.
12. Toxic states.

—*Tex. St. J. Med.*

### THE WAGNER BILL

The Wagner Health Bill was presented before the House of Delegates of the American Medical Association at the recent meeting of this organization. Without a dissenting vote the House rejected approval of this proposed health act. The reasons for condemning the Wagner Bill are so definite, so succinct and so well grounded that it will not be amiss to review the report adopted by the Reference Committee of the House of Delegates.

Amongst other things it states that this health bill does not safeguard in any way the continued existence of the private practitioner. These doctors have always brought the people the benefits of sci-

entific research and treatment. The Bill does not provide for the use of the innumerable beds that are now available in hospitals of all types. The Bill recommends Federal aid for medical care as a rule rather than an exception. The Bill definitely does not appreciate the fact that proper food, sanitary housing and other environmental conditions are necessary in order properly to prevent disease. The Bill insidiously promotes the development of a complete system of tax supported Government care. Although it does provide compensation for loss of income during illness, it proposes also to give complete medical services in addition to this compensation. It provides for supreme Federal control, the Federal agents having the authority to approve or disapprove of plans suggested by the various states. It does not call for any method to determine the nature and extent of the needs for preventive medical services for which it would allot funds. It implies by innuendo that any unfortunate health conditions in the United States are the result of unequal standards and irregular methods of medical practice.

These are a few of the reasons that the Reference Committee gave for opposition to the Bill. They have been quoted almost verbatim. The closing paragraphs will be quoted exactly:

"No other profession and no other group have done more for the improvement of public health, the prevention of disease, and the care of the sick, than have the medical profession and the American Medical Association.

"The American Medical Association would fail in its public trust if it neglected to express itself unmistakably and emphatically regarding any threat to the national health and well being. It must, therefore, speaking with professional competence, oppose the Wagner Health Bill."

—N. O. Med. & Surg. J.

#### CONSERVATION OF VISION

The following recommendations are suggested by the Committee on Conservation of Vision of the Indiana State Medical Association:

1. In the eyes of the new born, immediate instillation of 1% silver nitrate (beeswax ampules), 1 to 3 drops without irrigation following.

2. Treatment of squint or cross eyes as early as possible, preferably as early as three years of age.

3. Examination of all school children for visual defects and immediate treatment for all defects found.

4. Early detection and treatment for congenital and acquired syphilitic eye cases.

5. Examination and supplying of necessary glasses to the medical indigent school children.

6. Encourage visual tests on preschool children. Examination of vision with every general physical examination.

7. Early recognition and treatment of trachoma. (15% of the total blindness in the state of Indiana is caused by trachoma.)

8. Children with corrected vision between 20/70 and 20/200 should be in sight saving classes.

9. All school children with congested eyes should be referred to an oculist when possible.

—J. Ind. St. Med. Assoc.

#### DIRECTORIES AGAIN

The directory racket has again appeared in Arkansas. This time the worn-out theme is embellished with a fee schedule which the honored physician is asked to sign. The Journal again calls attention to the fact that these directories but serve to profit the promoters as investigation shows that insurance companies place no faith in them when making appointments. That these schemes can persist is acknowledgment of the frailty of the medical profession. Were all physicians to immediately consign such sales talks to the waste basket, the racket would fold up over night. By action of the House of Delegates of the American Medical Association on a resolution introduced by the Arkansas Medical Society in 1936, participation in these directories was declared unethical practice. Members are urged to abide by the ethics and, at the same time, save those five and ten-dollar payments for better use.

—J. Ark. Med. Soc.

#### FIFTY YEARS OF MEDICINE

I have no complaint to make. Life has been full. I have had my moments of joy and elation and my hours of defeat. The joy of announcing the birth of one's first-born; the anxiety of ministering to those seriously ill or only infirm; the deep joy of watching the recovery of a mother, father or child whose life was in the balance; the sadness, pathos, and need for sympathy when death comes, for holding the tired hands and closing the eyelids in eternal sleep—all these experiences and emotions come to the family physician who is confidant, friend and counsellor, and at times also priest.

My children are about me and I can gather my grandchildren about my knees. It is a great happiness to meet daily people that I know and love. There is one family in this city that I have ministered to for five generations, and what a joy it is to see daily parents and children that I helped into the world.

Please God, I can still work, though not so strenuously as formerly; and when, in the eventide of life, I shall be gathered to my fathers, may I have a part with Abou Ben Adhem, who asked for himself: "Write me as one who loved his fellow man". When the last visit shall have been made, the last office appointment kept, the last prescription written; when at eventide the voices are low and the lights dim, may the comforting and assuring presence of the Great Physician be mine and may it be my portion to be—

"Like one that wraps the drapery of his couch  
About him and lies down to pleasant dreams,"



to be awakened on the other shore by loved ones gone before, with a bright, "Good-morning."

—Cobb: *So. Med. and Surg.*

#### LIFE EXPECTANCY

Babies born in 1938 have a 62-year lease on life.

The total "life expectancy at birth" for the United States last year, according to computations based on certain estimated factors released recently by the United States Public Health Service, was 62 years. This figure compares with an expectancy of 60.26 in 1931 and 60.9 as estimated for 1937.

While still somewhat below the biblical promise of "three score and ten," the life expectancy now is almost twice as great as it was 100 years ago. For the 7 years since 1931 a gain in expectancy of 1.74 years is indicated, while a gain of 1.1 years is shown in 1938 over 1937.

The expectation of life at birth, it is explained, "is the average age at death of a hypothetical group of persons, each of whom is subject to the same age specific mortality rates throughout his lifetime."—Jo. F. M. A.

#### RUPTURE OF SYMPHYSIS PUBIS DURING LABOR

Patient, aged twenty-nine. A previous pregnancy eight years before resulted in normal labor. The child was reported to weigh eleven pounds. During this pregnancy internal pelvis measurements were not taken, since the patient came to the office only a few weeks previous to expected date of confinement. The blood pressure and urine were normal. The patient weighed 205 pounds, measured five feet, seven inches. She had gone two weeks past the expected time of confinement. The onset of labor was spontaneous and lasted two hours. The pains were strong and she insisted on bearing down with them. At the time the shoulders were delivered there was a dull cracking sound. After delivery examination of the perineum revealed a first degree laceration. The next day the patient complained of pain in the region of the symphysis and difficulty in moving the legs. The legs were everted and abducted. The chief complaint was of difficulty and pain when attempting to move the legs or to turn over in bed. A six inch Ace-bandage was used to encircle the pelvis, which gave considerable support. After two weeks in bed the patient insisted on getting up. The walking was of the typical "duck waddle" type. The pubic bone moved considerably with movement of the legs. The crepitus was easily demonstrated. The pubic bones became fixed at about four and one-half weeks and the patient was completely symptomless in eight weeks.

—Jo. Kansas Med. Soc.

#### BOOK NOTES

WHAT IT MEANS TO BE A DOCTOR, Dwight Anderson, Pp. 87. Cloth. Public Relations Bureau, Medical Society of the State of New York, N. Y. 1939.

This is one of the most interesting little volumes it has been our pleasure to come across in our browsings through the printed word. The statement is made that "Most people know what it means to be a patient. Few stop to consider what it means

to be a doctor." So the book goes on to follow "the doctor from his childhood, his boyhood, through college, medical school, hospital training and practice." A few steps are taken "with him into the precincts of his medical societies and scientific organizations."

The book is written primarily for the education of the laity. There is a thread of a narrative concerning the progress of a young man along the road to the attainment of an honorable place as a practitioner of medicine. The steps he takes are quite familiar to all men of medicine, but not so well understood by the general public. In publicizing the typical career of a young man entering medicine the book may well serve to tell the laity a great deal about their family physician that they have not heretofore known. It is a well conceived, well written piece of work. The volume closes on an interesting key note; "as we come to understand him better, of one thing we are increasingly aware: that what happens to the doctor also determines what happens to the patient. Their interests are the same."—M. P. S.

SYPHILIS AND ITS ACCOMPICES IN MISCHIEF: SOCIETY, THE STATE AND THE PHYSICIAN, by George M. Katsanos, M. D. Pp. 676. Paper. \$5.00, published by the author, Athens, Greece. 1939.

This is a most difficult book to review. It is a verbose mixture of fact and fancy. The lines are so poorly drawn between presentation of scientific facts and philosophical flights into the outer unknown that it is a hard task to decide in a short review the ultimate merit of the work. It would have been better if syphilis had to be discussed in two modes at variance with one another to have issued two separate volumes, one dealing with scientific aspects of the disease and the other with the sociological. As a text book on syphilis this work cannot be recommended. There is, however, much of interest from a speculative standpoint contained therein. In view of the leading position occupied by American syphilographers, omission of credit for their work constitutes a very serious shortcoming in the book. Finally, one views with amazement some of the rather bizarre statements contained in the volume and is duty bound to point out that in writing books, as on making appearances on the witness stand, brevity, clarity and complete veracity of statement are the high essence of quality.—M. P. S.

ENDOCRINOLOGY IN MODERN PRACTICE (Second Edition). By William Wolf, M.D., M.S., Ph.D., Endocrinologist to the French Hospital, Attending Endocrinologist, Misericordia Hospital, New York City; Consulting Endocrinologist, New York University Dental School. Second Edition, Completely Revised. 1077 pages with 176 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$10.00 net.

This second edition is quite an excellent revision of the first. It follows the general outline of the first edition. It has an excellent chapter on Protamine Zinc Insulin and the change in the care of the diabetic. Hypoglycemic states, diagnosis, and causes are also considered.

Diagnosis of menstrual difficulties by Suction Biopsy of the endometrium is also considered. He likewise discusses the role of the Autonomic nervous system in its hormonal and non-hormonal influences. The vitamins and their tremendously increased role in the body is also brought out. There is a very good chapter on interpretation of laboratory findings, and an excellent section in the back on Tests for Endocrinopathies. Tests for Endocrinopathies is a most useful chapter as it aids greatly in picking up the chief features on a laboratory basis that one should look for in an endocrinopathy.

A chapter on Symptom Diagnosis is also included for simple references by page to the place where this topic is most readily discussed.

The thirty-first chapter takes up in a very brief, but sufficiently adequate manner, the more recent laboratory procedures for the determination of such blood chemistries as the serum phosphatase, Calcium, Phosphorus, Diffusible Calcium, Blood Iodine, Potassium Tolerance Test, Blood Estrin, as well as several of the Sex Hormones in Urine.

The final chapter is devoted to a list of the outstanding endocrine preparations and the names of the companies who prepare the same.

The text is much the same as the first though a little fuller by reason of more recent discoveries. Pictures illustrate the book quite adequately.

Each gland of internal secretion is considered under a heading of Anatomy, Biology, Physiology,

and Chemistry. Also relationship to other glands and diseases of the gland, and under diseases, Hypofunction and Hyperfunction are considered while at the end of each chapter is a summary of these headings.

This is in reality an excellent text book and reference book for the busy physician. With a very little attention to the form in which the book is put up, one can quickly determine what one needs to know in the case of any given situation which presents itself to him.

I should say that the outstanding lack in the book is a bibliography, but doubtless if this had been included, it would have been too large in its present form to be included in a single book. All in all it is an excellent text book and reference book though lacking in bibliography.—J. M. R.

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CLINICAL GASTRO-ENTEROLOGY: Horace Wendell Soper. Price, \$6.00. St. Louis, C. V. Mosby Co. 1939.

The author states in the preface to this volume. "A clear concept of physiologic standards will aid in diagnosis and simplify therapy. While we strive to adhere to these standards, we must yet follow where the lamp of empiricism leads the way."

With this thought as a theme we find the contents of this work devoted primarily to points of diagnosis and treatment. The chapter on peptic ulcer is devoted entirely to treatment, however, in chapter eleven on "The Colon and Constipation",

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special attention is accorded both anatomic and physiologic factors.

Throughout this volume we find a definite expression of the author's personal experience. The subject matter on diagnosis is well illustrated by the inclusion of 212 roentgenographs.

Ample reference to the literature is recorded in an alphabetical bibliography which affords the reader an opportunity for a more detailed study in this extensive field.—J. J. G.

**CANCER HANDBOOK OF THE TUMOR CLINIC, STANFORD UNIVERSITY SCHOOL OF MEDICINE** Edited by Eric L. Lijencrantz, M.D., Chief of the Tumor Clinic. 114 pages, 50 illustrations. Price, \$3.00. Stanford University Press, California, 1939.

This small book contains a wealth of information, and yet the material can be read and digested in a short time. The illustrations are numerous and of excellent quality. It is an excellent work for the general physician, and for the various specialists who are interested in cancer, but who do not require the larger and more detailed works on that subject. There is a brief but very practical section on the principles of radiation therapy, reactions, and the relative radio-sensitivity of various normal and neoplastic tissues. This is followed by sections on malignant disease involving different regions and structures of the body. The book gives a practical working knowledge of cancer which will be of much benefit to the practitioner in the recognition of cancer, and in determining the proper treatment

for the case. Besides it will serve as a reliable, brief reference book for many specialists. There is a real need for such small but comprehensive texts for the busy physician who must read between patients.—L. M. S.

**TREATMENT IN GENERAL PRACTICE: The Management of Some Major Medical Disorders.** Little, Brown & Company. Boston. 1939. Two volumes.

This collection of articles was first published by Little, Brown & Company in March, 1936. It was reprinted in 1937, a second edition was published in 1936, and another reprint in 1939. The entire two volumes is made up of reprints from *British Medical Journals*, from which they took articles treating with the subjects they desired to discuss.

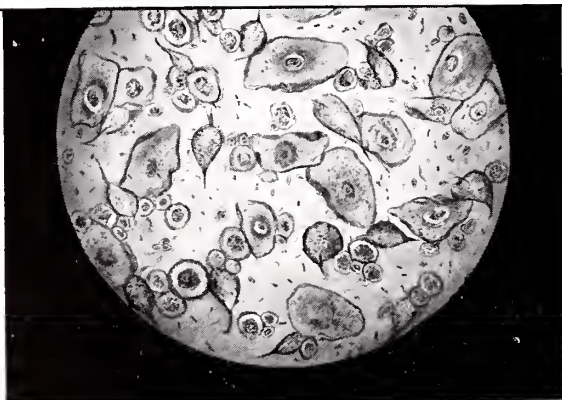
The first volume deals with the treatment of acute infectious diseases and cardio-vascular diseases. The second volume takes up chronic conditions, dealing with the nervous system, diseases of the blood and blood-forming organisms, kidneys, metabolism, and rheumatism. In order to keep the series practical for reference work and to make the volumes available and useful in teaching, each subject is treated very cleanly and clearly, almost to the point of dogmatism. Some of the subjects are not taken up as completely as authors in the United States are endeavoring to treat them. On the other hand, others are handled much more elaborately than is customary.

The chapters on heart disease are of special value

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for reference work. The articles dealing with peptic ulcers and gastric bleeding and acute and chronic gastritis and colitis are handled excellently.

These two volumes may be wholeheartedly recommended as an invaluable addition to any physician's library.—R. H. H.

**STANDARD BODY PARTS ADJUSTMENT GUIDE**, Copyrighted, 1939. Traumatic Injuries, Medical Fees, Evaluations; Insurance Statistical Service of North America; Chicago, U.S.A.: \$8.00, including ten years revision service.

The designers state the purpose of the book is "to detail the nature and background of an industrial injury, or an occupational disease, so that persons called upon to deal with them could accurately appraise their significance."

The volume is loose-leaf of perhaps 150 pages divided into eight sections presenting the general make-up of the body, medical fees as they prevail generally in the U. S., Dental Fees, the likely results of trauma to the body, occupational diseases, evaluation of disabilities, compensation, and medical terminology.

The language used is primarily for the layman but there is much in the book that might be important to the physician, especially in regard to the varying laws of the different states concerning industrial accidents and diseases.

Physicians doing much industrial work will find this a handy reference.—O. H. B.

**DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN**: Edited by Robert L. Levy, M.D., Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University; Associate Visiting Physician and Cardiologist, Presbyterian Hospital, New York City; Advisory Editorial Committee: Alfred E. Cohn, James B. Herrick, Carl J. Wiggers; Contributors: Claude S. Beck, Herrman L. Blumgart, Alfred E. Cohn, Lois I. Dublin, James B. Herrick, William J. Kerr, Robert L. Levy, Fred M. Smith, William C. Von Glahn, Joseph T. Wearn, James C. White, Paul D. White, Carl J. Wiggers, and Frank N. Wilson. New York: The MacMillan Company; 1936.

Coronary artery disease is being consistently recognized and treated by physicians generally, that such a work as this should have wide appeal. Every effort has been made to assemble all the facts upon this subject between two covers and it would seem from a fairly careful reading that such has been accomplished. While the names of the contributors may not be familiar to most of the physicians who may read this review, the institutions with which the contributors are connected give assurance of the reliability of their work.

Beck is with Western Reserve, Blumgart with Harvard, Cohn with Rockefeller Institute, Dublin with Metropolitan Life Insurance Company, Herrick with Rush, Kerr with California University, Levy with Columbia, Smith with Iowa, Von Glahn with Columbia, Wearn with Western Reserve, James White with Harvard, Paul White with Harvard, Wiggers with Western Reserve and Wilson is with University of Michigan.

The book is divided into five parts dealing with

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coronary circulation, cardiac pain, clinical features, treatment and surgical treatment. There are 17 chapters.

Physicians generally will wish to have the latest data on this subject, the better to treat their patients and especially to help guard themselves against falling victims to coronary disease.—O. H. B.

**CLINICAL BIOCHEMISTRY:** By Abraham Cantarow, M.D., Associate Professor of Medicine, Jefferson Medical College; Biochemist, Jefferson Hospital; and Max Trumper, Ph. D., Clinical Chemist and Toxicologist; formerly in charge of the Laboratories of Biochemistry of the Jefferson Medical College and Hospital. With a foreword by Hobart A. Reimann, M.D., Professor of Medicine, Jefferson Medical College. Second Edition, Revised. 666 pages. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$6.00 net.

The first edition of this invaluable book was published in 1932 under the title of "BIOCHEMISTRY IN INTERNAL MEDICINE." Because of the many advances and discoveries in laboratory methods and in their clinical application, a revision was necessary. The authors felt that a change in title was advisable. There are new chapters or sections on carbohydrate metabolism, water balance, iron, magnesium, iodine and potassium metabolism, uremia, and serum phosphatase activity, among many other subjects which are of interest to the clinician.

The entire book has been brought up to date. It is our impression that the book devotes much space to fact and little to theory.

The chapter on hepatic function is of especial interest as the liver has long been the "dark con-

tinuent" in human physiology. Chapter XXV consists of an outline of chemical diagnostic features of various disorders and is worth much to any physician regardless of his specialty.

The book is a worth-while aid in diagnosis and we heartily endorse it to our fellow practitioners.—C. D. A.

## Directory

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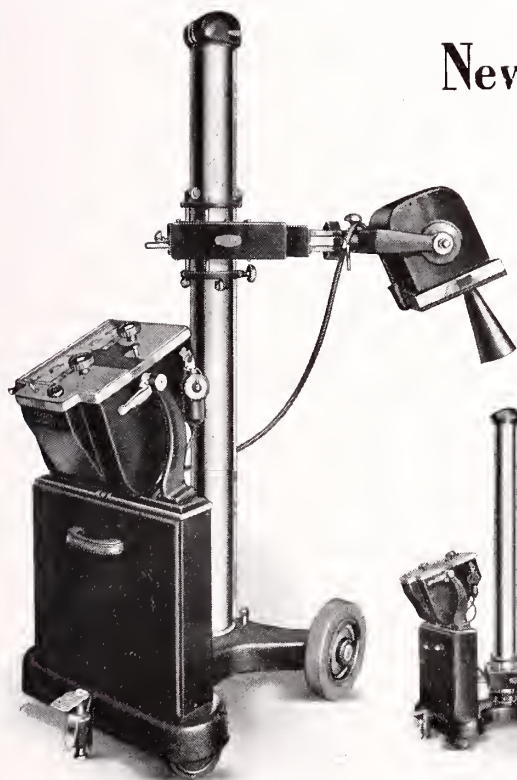
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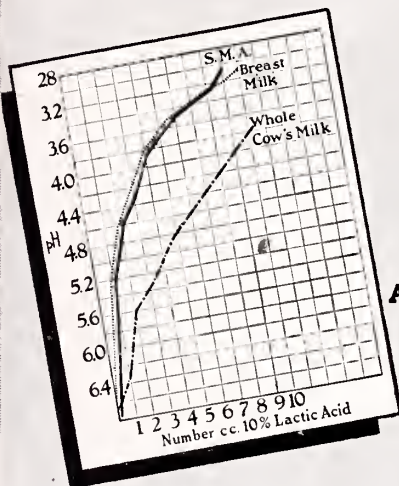
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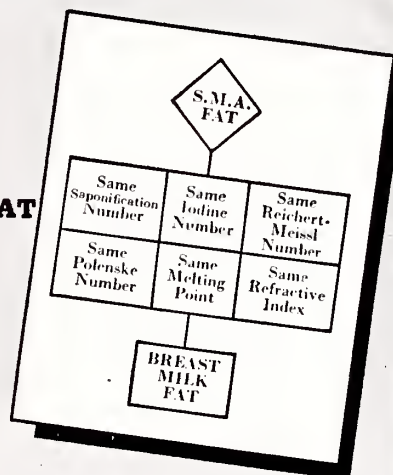
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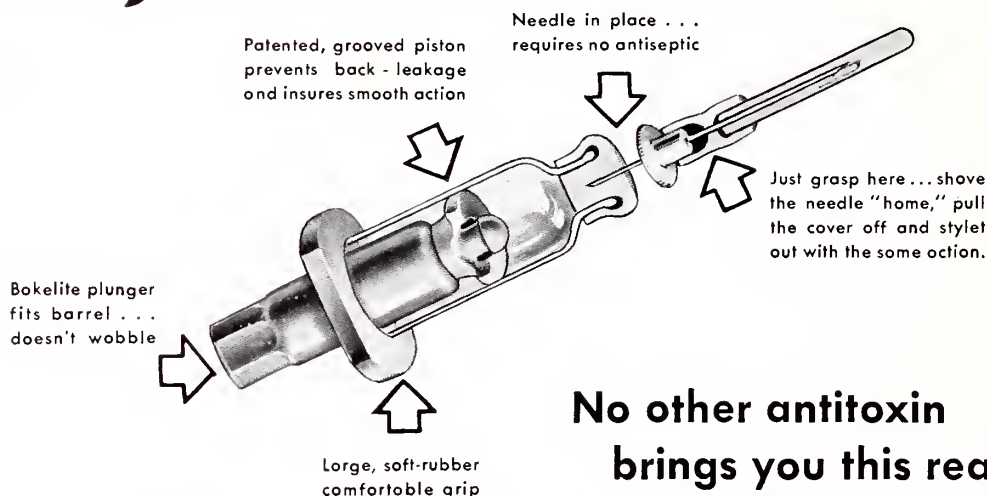
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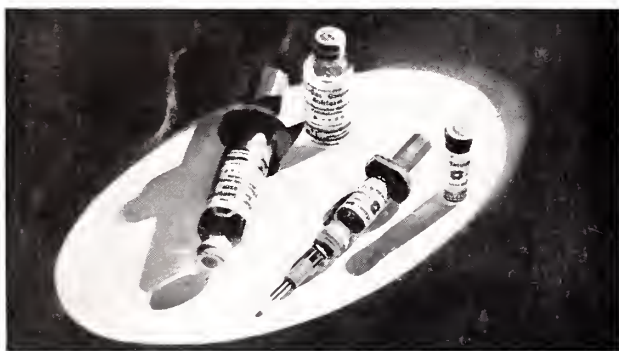
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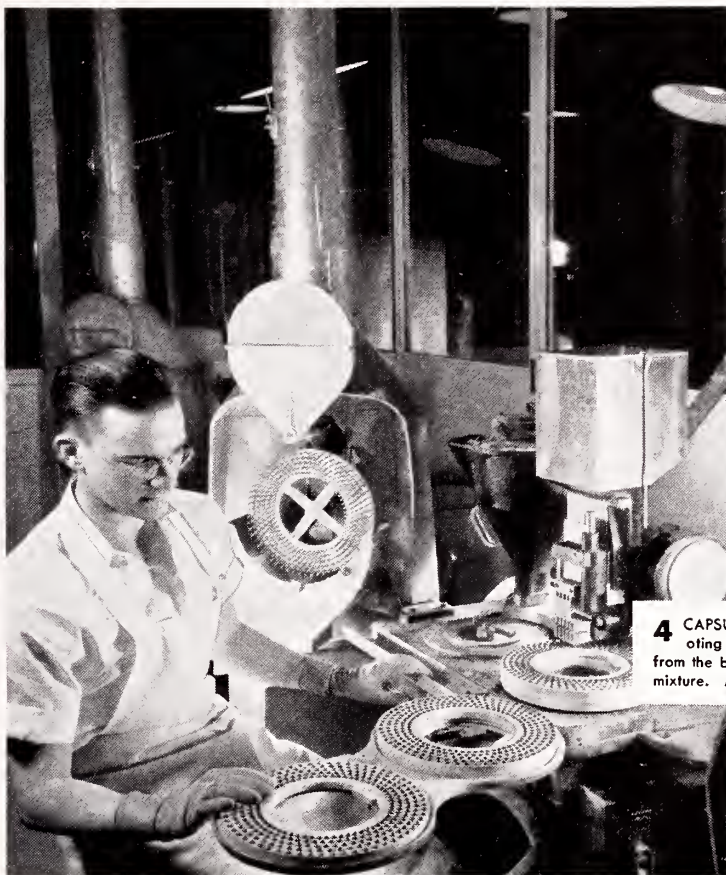
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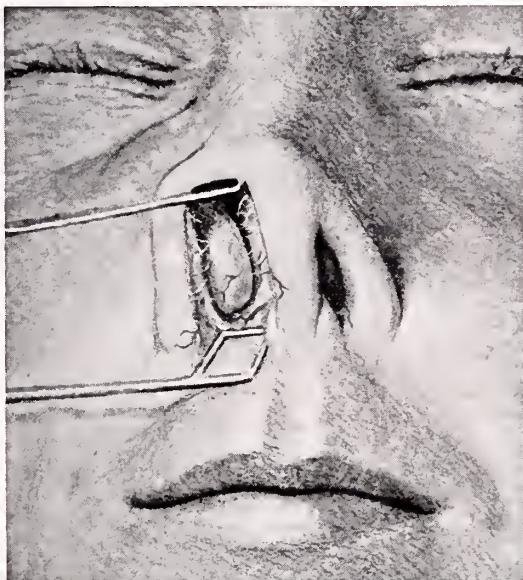
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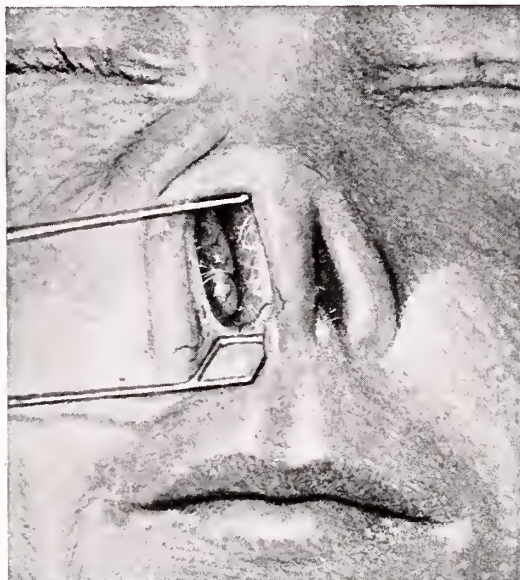
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## Splanchnic Anesthesia

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and

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IT has been well stated that "The subject of surgery is as old as human needs." In like manner the demand for and development of anesthesia is historical.

It is not my purpose to go into the history of anesthesia and analgesia but rather to call attention to the fact that a constant search has been made and is still being made for the ideal anesthetic. An ideal anesthetic should be one which, of course, does not contribute to mortality. In the second place, it should not contribute to morbidity, and in the third place it should render the operative field as nearly perfect, as possible, for the surgeon.

We are all familiar with the factors which produce death from anesthesia; the cardiac, pulmonary and renal complications stand out most prominently. But one big factor is frequently overlooked, namely: the loss of body fluid through vomitus and perspiration and the resulting dread complication of paralytic ileus.

Increased morbidity is frequently brought about by the use of improper anesthetics. For instance, the development of pneumonia, even though it may not be fatal, keeps the patient in the hospital an unusual length of time and leaves him in a convalescent state for many weeks longer than he would have been, had he not suffered from this complication. The nausea and vomiting frequently produce a weakened abdominal wall, if not a complete evisceration.

The ability of the surgeon to do good work on account of lack of relaxation under many of the general anesthetics in upper abdominal work contributes to morbidity in the form of post operative adhesions due to imperfect closure of the abdominal incision and to the rough handling of abdominal contents made necessary by the walling off with enormous sponges in order to give the surgeon a clear operative field.

These are some of the factors that doubtless inspired the men of the generation preceding us, after the discovery of novocaine, to devise some method which would eliminate some of the distressing complications with which they were being constantly confronted.

It is becoming more and more generally conceded by open-minded surgeons everywhere that a nerve block anesthetic or analgesic is the ideal agent to use, provided that this can be used safely and with comfort to the patient.

In all operations below the umbilicus, the spinal anesthetic is the ideal procedure, but when one goes above that line in patients over sixty years of age, he faces problems that are not to be found below the umbilicus or in younger patients above the umbilicus.

### SPLANCHNIC ANESTHESIA

Splanchnic anesthesia was first introduced by Kappis, Pauchet and Broun, and to them we are deeply obligated. However, the popularizing of the procedure has been accomplished by Professor Hans Finsterer of Vienna, who uses it consistently in all upper abdominal operations. He is most enthusiastic about it and has no patience with, or charity for those who would condemn it.

A surgeon needs only to attend Professor Finsterer's clinic to become impressed with this method, and if one follows his work for a few months and studies his statistics, one is impressed with the honesty of his assertions and the value of the procedure.

The main objection to the use of the splanchnic anesthesia, as nearly as I can learn, has been that it is difficult and tiring to both the surgeon and the patient, but after one has used it a few dozen times, it becomes a fairly simple procedure.

Kappis, early in his work, advocated the posterior method. As this is a blind injection, it leads to so many failures and is accompanied by so many dangers, that in my opinion, the transperitoneal method is decidedly preferable. This method simply means the infiltration of the abdominal wall for the incision and then the careful infiltration and blocking back of the parietal peritoneal wall, after the abdomen is opened. This, then is followed with an injection of the gastro hepatic ligament or lesser omentum, with a small amount of novocaine with a fine needle, and the stomach is gently pulled downward with the patient in a semi-sitting posture, reclined to an angle of about forty-five degrees and with the assistant holding the stomach down with a flat retractor and the liver up with



another flat retractor, pressure is made with the index finger of the left hand over the region of the celiac axis and anterior surface of the first or second lumbar vertebra where the abdominal aorta is felt pulsating and is gently pushed over to the left. The finger is then pressed down on the surface of the vertebra.

The point of injection having been well determined by the index finger of the left hand, a long splanchnic needle with a short bevel is grasped with the right hand and is slid down along the index finger, using it as a guide, and it is inserted through the gastro hepatic ligament, or lesser omentum, on through the posterior peritoneum until the point of the needle rests on the anterior surface of the vertebra between the abdominal aorta and the vena cava and in the region of the celiac plexus.

When one finds that the needle is resting firmly on the vertebra, the guiding finger and hand are withdrawn, and from 75 to 100 c.c. of one half of one per cent novocaine solution, containing the usual amount of adrenalin, is introduced, which immediately floods the retroperitoneal space and within three to five minutes, produces complete anesthesia of all the upper abdominal viscera, including the stomach, pancreas, liver bile ducts, transverse colon and spleen and sometimes the entire intestinal tract.

If the needle punctures a blood vessel, as evidenced by the presence of blood in the needle, it must be withdrawn and re-inserted before making the injection. Finsterer warns against injecting at all under such circumstances, but I have done so in at least five cases and there have been no ill results.

The only pain that the patient suffers during the entire procedure is at the moment that the guiding finger passes down firmly upon the lesser omentum, and this can be obviated by infiltrating this area with novocaine before introducing the finger as heretofore described. There are no untoward symptoms. The patient does not complain of any discomfort, shortness of breath, feeling of weakness, etc., which are commonly complained of in spinal anesthesia.

The anesthetic lasts for three hours but if one prolongs his activity that long, it will probably be necessary to re-anesthetize the abdominal wall when ready to suture it.

With this upper abdominal area anesthetized it is possible to do any type of surgery necessary, namely: gastric resection, cholecystectomy, bile duct surgery, pancreatic surgery, or any surgery upon the transverse colon or spleen.

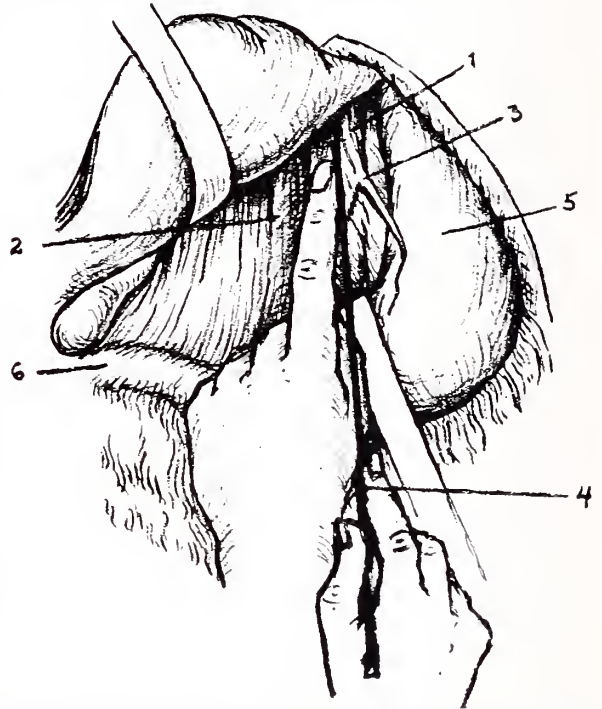
The convalescence following the use of the splanchnic anesthesia is so different from that of other anesthetics where extensive upper abdominal surgery has been done, that it is indeed striking.

Complications are conspicuous through their absence. The patient remains comfortable and does not require the sedatives ordinarily used. There is no nausea or vomiting, consequently there is no

loss of body fluid. The eliminators of the skin are not disturbed, there is no shock, there are no pulmonary complications; in fact, it comes near being the ideal anesthetic.

Its use is particularly adaptable in debilitated individuals, where upper abdominal surgery is necessary and where no other anesthetic can be tolerated.

I would not recommend, however, the use of it only when no other anesthetic can be used, because, like every other agent that we possess, if we will be proficient in its use, it will be necessary for us to use it frequently, and in cases that would probably get along without very much discomfort regardless of the type of anesthetic used. In other words, if one will be proficient in the use of splan-



Anterior splanchnic anesthesia. Left lobe of liver retracted upwards, stomach drawn down, through which the small omentum is stretched. 1, aorta; 2, vena cava; 3, celiac axis; 4, Finsterer Splanchnic needle; 5, stomach; 6, duodenum.

chnic anesthesia, he must use it frequently and master the technique.

In my comparatively small series of slightly over one hundred cases of splanchnic anesthesia, without any anesthetic death or a complication, I am so convinced of the virtue of it and its life-saving quality, that I am a true missionary for it and I am firmly convinced that many patients' lives can be saved that would be lost by the use of any other anesthetic.

#### ANATOMY

The great splanchnic nerve is formed by branches from the sixth, seventh, eighth and ninth thoracic ganglia of the sympathetic trunk. It is about as thick as a match and runs down on the two sides

of the vertebral column, passing through the diaphragm between the medial and intermedial crura on the right side with the azygos vein, and on the left with the hemi azygos vein. The nerve enters the abdomen at the height of the twelfth rib. After a short course it bends at an approximate right angle toward the midline, joins the upper end of the celiac plexus. The lesser splanchnic nerve originates by two branches from the tenth and eleventh thoracic ganglia. Its course is similar to that of the greater splanchnic but on a somewhat more dorsal plane. The two semi-lunar ganglia form the nucleus celiac plexus, the left situated to the left of the celiac axis and right between the vena cava and the left lobe of the liver and the head of the pancreas. The whole plexus forms a ring around the celiac axis. Each semi-lunar receives at its upper pole the greater splanchnic nerve, and at the lower border lying over the renal artery, the lesser splanchnic nerve enters.

The rami communicantes from the lumbar sympathetic trunk may enter the celiac but usually joins the aortic plexus. This whole network of semi-lunar ganglia, splanchnic nerves and rami communicantes, with the abdominal branches of both vagi, form the celiac plexus. It is therefore seen to be formed from both sympathetic and parasympathetic fibres. It has been shown that the vagi contain no fibres carrying pain sensation. It is known that the sympathetics do carry pain fibres. Whether the sensory fibres of the sympathetic system belong to the sympathetic system or are only carried in them has not been determined. The practical conclusion, however, is the same. The splanchnic nerves carry sensory fibers for a large group of abdominal organs and their block results in analgesia. It is not necessary here to go into the theories regarding pain in the abdominal viscera. It may be noted, however, that the most sensitive points are the mesentery, the lesser omentum,

the gastric attachment of the greater omentum, the region of the cystic, hepatic and common ducts, the porta hepatis, the renal hylus and the larger vessels. Clinically, it is to be noted that splanchnic block results in perfect analgesia of the upper abdomen including the liver, spleen, stomach, duodenum, pancreas and transverse colon.

#### SUMMARY:

The splanchnic nerves carry sensory fibres for a large group of abdominal organs and their block results in analgesia. The most sensitive points in the abdominal viscera are the mesentery, the lesser omentum, the gastric attachment of the great omentum, the region of the cystic, hepatic and common ducts, the porta hepatis, the renal hylus, and the larger vessels.

Clinically, it is to be noted that splanchnic block results in perfect analgesia of the upper abdomen, including the liver, spleen, stomach, duodenum, pancreas and transverse colon.

The transperitoneal method is preferred by the author and the technic is described. There is no shortness of breath, no feeling of weakness, or other discomfort commonly complained of in spinal anesthesia. The anesthetic lasts for three hours; it may be necessary to re-anesthetize the abdominal wall before suturing.

Complications do not arise. The patient remains comfortable. No sedatives are required. There is no nausea or vomiting, no loss of body fluids, no pulmonary complications. The eliminators of the skin are not disturbed. Its use is particularly adaptable in debilitated individuals, where upper abdominal surgery is necessary and no other anesthesia can be tolerated.

The author recommends its more frequent use. In a series of 100 operations, there was no anesthetic death or complication.

903 Terminal Bldg.

## Brachial Block Anesthesia

CHARLES H. ARNOLD, M. D.

and

L. V. GIBSON, M. D.

Lincoln, Nebraska

**B**RACHIAL anesthesia is one of the most valuable agents we have at our command at the present time, and yet one of those agents which is most rarely used. It is particularly adaptable for either office or hospital practice, and where no anesthetist is available and one must work single handed on an upper extremity it is indeed a most valuable agent.

The technique of brachial block anesthesia, like any other technique, is extremely simple, after one has carried out the procedure a dozen times or

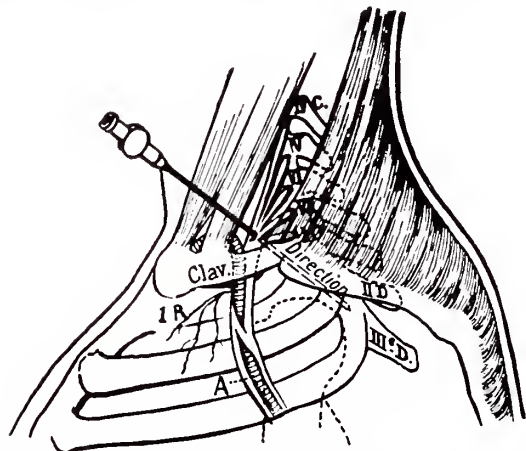
more, and is not to be feared by the careful operator.

The technique which we have found to be acceptable and satisfying is the supra clavicular route. With the patient in a sitting or semi-sitting posture, bisect the clavicle after raising a small wheal in the skin, a fine needle slightly larger than a hypodermic needle is then inserted at right angles with the clavicle and in the direction of the 7th cervical transverse process until the point of the needle meets with the plexus or until it rests on the outer surface of the first rib.

When the needle comes in contact with the plexus



the patient will give the warning, having been instructed beforehand to signal when he feels an electric like shock proceeding down the arm to the finger. When this is accomplished, 30 to 40 c.c. of



Illustrating general direction of needle; it should never pass beyond the first rib.

2% novocaine is injected, being very careful not to change the position of the needle in the slightest degree. Within a few moments the patient begins to notice anesthesia in the arm. In twenty minutes the entire arm is anesthetized.

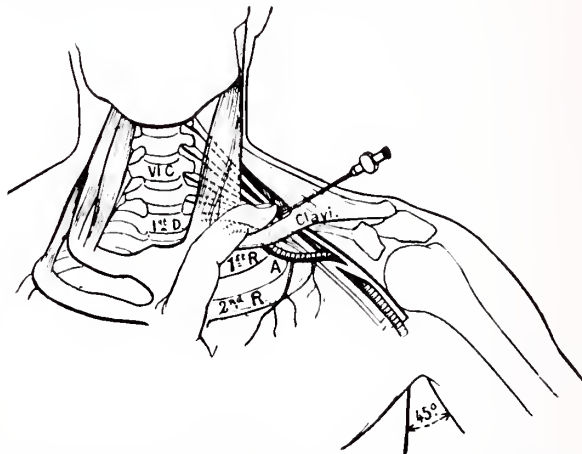
The sensory nerves are most easily affected by this block, the same as in any other novocaine block; the motor nerves also are usually paralyzed.

The anesthesia produced by this method enables one to do anything surgically from the shoulder girdle to the tips of the fingers and is a most help-

ful anesthetic to use in hand injuries where a considerable length of time is consumed to repair tendons, nerves, etc. The anesthetic will last from two to three hours.

Two points in the administration of this anesthetic are to be considered carefully and seriously.

One must be sure that the needle does not rest within lumen of a large vessel. This, of course, can be easily determined by drawing the plunger of the syringe. The second precautionary measure to be



Showing needle on upper border of mid portion of clavicle with point entering brachial plexus on top of first rib (needle must never pass beyond first rib.)

used is never to pass the needle beyond the first rib, for by so doing one may injure the pleura, or cause lung collapse or pleural shock.

Terminal Bldg.

## Artificial Pneumothorax

DERMONT WILSON MELICK, M. D.  
*Madison, Wisconsin*

### INTRODUCTION

THE year 1939 has been ushered in with one remarkable promise. Pneumonia will never be known hereafter as "Captain of the Men of Death." Sulfapyridine, the recently introduced drug closely related to sulfanilamide, is responsible for this modern medical miracle.

If we are to conquer tuberculosis as pneumonia has been conquered, it is high time we gave it our undivided attention. Some there are who will point with pride to our present tuberculosis mortality statistics. They would have us believe that tuberculosis is slowly but surely being eradicated from these United States. Nothing could be further from the truth. The statistics fail to state that among the youth of our nation tuberculosis is rampant. Its ravages are concentrated on the very backbone of our nation. It is the leading cause of death between the ages of fifteen and forty-five. The mortality

rate must be reduced in this age group if our statistics are to have any tangible meaning. Suffice it to say that tuberculosis is the greatest public health problem of our time.

If one were to believe the majority of published statistics Arizona would be forever condemned as a hotbed for the breeding and dissemination of the tubercle bacillus. This again is contrary to the actual facts. Arizona can and does offer the best chance for the complete cure of tuberculosis. We offer the ideal environment and necessary medical facilities, and therefore should continue indefinitely as a mecca for the tuberculous individual. Let those who would refute these statements do so not with such notorious misrepresentations as are couched in statistics.

Arizona has, however, a goodly number of tuberculous individuals who want for more efficient care of their disease. This could be said of any state. To remedy this, Arizona is one of fourteen states now boasting a state organization devoted entirely to

the adequate control of tuberculosis. All of us should be aware of this organization and the plan it proposes. This paper is but one attempt to bring the plan forcibly to mind. We must emphasize and re-emphasize the necessity for a widespread and concentrated effort by all physicians within the state if the plan is to be a dynamic and continuous success. If it is less than that we have neglected our duty and left the purpose unfulfilled.

One of the aspects in this efficient care is the individual suitable for pneumothorax therapy who may be ambulatory. To this we will assign the term "ambulatory pneumothorax" and provide a concise definition in due time.

#### COLLAPSE THERAPY IN GENERAL

Before launching in to the main theme I think it well to say a word about collapse therapy in general. This will enable us to establish a base line and also aid in emphasizing the fact that the approach to the problem of tuberculosis control must be considered in all its ramifications if we are to reach the ultimate in thorough-going control of this disease.

When one excludes pneumothorax and thoracoplasty much of what might be said regarding collapse therapy has been denied us. It must be realized that collapse therapy includes a great deal more than is covered by these two operations. In addition to pneumothorax and thoracoplasty there are nine other operations now at our command to bring about collapse of the lung. From this total of eleven different operations we must choose the most suitable one for the particular case at hand. These eleven operations are enumerated as follows:

1. Phrenic paralysis
2. Scalenotomy
3. Pneumothorax
4. Intra-pleural pneumonolysis
5. Oleothorax
6. Multiple intercostal nerve paralyses
7. Extra-pleural pneumonolysis (to include extra-pleural pneumothorax)
8. Supra-periosteal pneumonolysis
9. Extra-pleural thoracoplasty
10. Cavity drainage
11. Pneumo-peritoneum

#### EXTRA-PLEURAL PNEUMOTHORAX

With two exceptions nothing further will be said regarding each individual operation. These two exceptions are the intra-pleural ambulatory pneumothorax, to which this paper is primarily directed, and the extra-pleural pneumothorax. Special note is to be given to the extra-pleural pneumothorax in order to clearly differentiate it from the intra-pleural pneumothorax.

To be all inclusive it might be defined as an extra-pleural, extra-fascial apicolysis followed by the introduction of air over the collapsed apex of the lung. This apicolysis is accomplished by removing a portion of the 3rd or 4th rib posteriorly keeping all dissection outside the endothoracic fascia with especial emphasis on careful freeing of Sibson's bands above Sibson's fascia at the apex. This allows the apex to be shelled out and collapsed

downward. This collapse is afterward maintained by repeated refills with air. This procedure finds favor where intrapleural pneumothorax is impossible and thoracoplasty undesirable. It has strict limitations and in view of its recent introduction its value is yet to be definitely established.

#### AMBULATORY PNEUMOTHORAX

We come now to the main interest of this paper, that is, intra-pleural ambulatory pneumothorax. This completely excludes any reference intentional or otherwise to the aforementioned extra-pleural pneumothorax. To define what is meant by the term "ambulatory pneumothorax" is most important. It does not offer a cure for tuberculosis "on the run" so to speak. It does not exclude a period of hospitalization. It is not unattended by complications and is not a simple procedure when considered in its totality. It must be applied by intelligent and discerning physicians. Precisely, the definition is as follows: "a short period of hospitalization of two to four weeks in a local hospital during which time collapse of the diseased lung is established, followed by regular visits to the outpatient pneumothorax clinic for refills, the patient remaining at home in bed, under supervision during the interim." If one could positively guarantee to a patient presenting an early lesion full return to work within the space of a few short weeks on the above regimen then it is but a short way from there to Utopia. Of course no guarantee like this is possible or even remotely suggested. It is of interest, however, to note that cases have been reported with early return to work. The following instance is reported by Dr. J. W. Cutler of Philadelphia:

A dentist was stricken with active tuberculosis of the lungs just as he was becoming established in practice. Examination revealed a cavity 3 centimeters in diameter in the upper lobe of the right lung. He had a positive sputum, cough and an evening temperature of 99.4 degree Fahrenheit. Initial pneumothorax was instituted on June twelfth, 1933. The collapse was satisfactory; the cavity closed, the sputum became negative and the fever disappeared. Two weeks later (June 26, 1933) he was in his office again practicing dentistry. At the present writing, six years later (March, 1939) he presents no evidence of active disease.

The foregoing case is remarkable but not unusual.

#### INDICATION AND APPLICABILITY

The indication and applicability of ambulatory pneumothorax is to those cases classified as the "curable type". This excludes those having far advanced bilateral disease and preferably includes only those presenting an early lesion and more specifically of unilateral involvement. Thus is the field for ambulatory pneumothorax limited. And as surely as the limitations are disregarded then just as surely are there to be recorded results that will be poor if not disastrous. It is worthy of emphasis that in almost every instance where the disease is limited to one lung and successful collapse can be obtained the sputum will become free of tubercle bacilli, in some cases within a few weeks after the



institution of treatment. From the view-point of public health, this result is of the greatest importance. If by such a relatively simple procedure as pneumothorax a goodly number of tuberculous patients can be rendered harmless to those about them through the disappearance of tubercle bacilli from the sputum we have in this procedure one of our most powerful weapons in the control of tuberculosis. As to the best time for the introduction of the initial pneumothorax no set rules can be laid down. When an individual is diagnosed as having clinically active tuberculosis with positive sputum, some sort of collapse therapy should be established as soon as practicable. In the average case there is nothing to be gained by waiting a few months to see how the patient will respond to bed rest alone.

I recently had the opportunity to hear a well qualified radiologist make the statement that collapse therapy is never indicated until cavitation has occurred. Surely experienced phthisiologists will not concur in this opinion. It seems inevitable that small cavities will form and still not be demonstrable on the X-ray plate. This inexcusable delay also allows for the formation of adhesions which might otherwise have been avoided. Needless to say a progressive lesion demands collapse therapy before the stage of cavitation if one is fortunate in reaching the patient at this early stage.

As to the applicability of ambulatory pneumothorax it can be stated roughly that one-fourth of the cases of active pulmonary tuberculosis are suitable for this treatment. Troublesome adhesions prevent adequate collapse in a good many additional cases. There are possibly 800,000 cases of active pulmonary tuberculosis in the United States today. 200,000 of these cases are amenable to ambulatory pneumothorax. 700 of these cases are within the confines of the state of Arizona. Today, in New York City there are 1700 individuals being treated in the pneumothorax clinics scattered throughout the different sections of that city.

#### THE PNEUMOTHORAX CLINIC

Our main interest must be confined to the 700 individuals for whom we must be responsible. A case plan management must be outlined for these tuberculous individuals. An integral part of the case management is the establishment of pneumothorax clinics. There should be designated throughout the state, and this has been done, certain cities wherein a pneumothorax clinic is to be organized.

Each clinic, and to this there is no warranted exception, should be harbored in a hospital. Whether it be a small private hospital or a large general hospital makes no difference, but the clinic must be in close relationship to some hospital. This is necessary in order to provide available beds and also to take care of the complications that are certain to arise under this therapy be they minor or major in character. The incorporation of the hospital as a part of the clinic is essential but unfortunately presents us with a stumbling block. The greatest difficulty will be in getting the hospitals

to assign beds in their wards for the hospitalization of active cases as they all have a tendency to shy away from the care of tuberculosis.

In addition to the physical equipment such as a pneumothorax machine and an X-ray, it is important that the physician in charge be well versed in the administration of pneumothorax and have an appreciation of the value of fluoroscopy. It is well to have each clinic supervised by a thoracic surgeon but this is impossible in most instances. Along the line of supervision it is well to call attention to the limitations of this clinic. Most certainly the work will not be limited to pneumothorax alone. Limitations are as follows: operations must be confined to pneumothorax, oleothorax, pneumo-peritoneum and phrenic paralysis. With the possible exception of these relatively simple procedures all other surgical measures should be referred to a thoracic surgeon. An especial word of warning is issued as regards intra-pleural pneumonolysis. The intra-pleural freeing of adhesions is not a difficult operation, and this is especially true since the improvement of the Cutler single cannula thoracotome. However, this does not supplant the necessity for experience nor allow for the success of the occasional operator. The temptation to do intra-pleural pneumonolysis lies in the fact that many patients have adhesions amenable to such surgery. The cutting of these adhesions will result, in many instances, in a more effectual collapse, but it is for the experienced thoracic surgeon to aid in bringing this about, and not the ambitious neophyte!

One final essential is necessary in the make-up of the clinic. This essential is a nurse, probably one engaged in public health nursing, or as a second choice, a competent social service worker. This individual is indispensable in that the patient on ambulatory pneumothorax must be instructed as to his or her conduct after release from the hospital. It is the duty of the nurse to visit the patient and see that all instructions are carried out. Her job is an important one and the success or failure of the plan may hinge on her diligence.

One more word might be added with advantage when considering the location of these different clinics. The cities scattered throughout the state of Arizona are located at various altitudes. Doctor John Alexander states that an individual carrying a pneumothorax of one thousand cubic centimeters at sea level will have an increase in the volume of that air up to 1400 cubic centimeters when transported to an altitude of ten thousand feet. This is of little importance as a rule, but the difference in altitude between Southern and Northern Arizona should be taken into consideration if the patient is to travel from the low to the high altitude.

#### SUMMARY OF CASE MANAGEMENT PLAN

The treatment for the individual case may be summarized as follows: Each hospital so designated as a pneumothorax clinic should be required to provide one or more beds for the care of the "ambula-

tory patient". Each patient considered suitable for ambulatory treatment is to use one of these beds from two to four weeks while the initial pneumothorax is being instituted. Following this and with definite evidence of satisfactory progress the patient is discharged to his home. Here the most important part of the therapy is to be carried out by the patient under the guidance of the nurse. He should report at stated intervals to the pneumothorax clinic for fluoroscopic examinations and refills. His progress is checked, and if and when it can be decided his disease is under control he is gradually returned to his previous occupation. The criteria for return to work are: negative sputum, all cavities completely collapsed, no constitutional signs of active disease, good exercise tolerance and a normal sedimentation rate. It is at this point that our patient becomes completely ambulatory in the full meaning of the word. For three years thereafter his pneumothorax is maintained. The length of time for maintaining the pneumothorax is arbitrary but an early release of the pneumothorax is to be guarded against. Remember that the decision to discontinue pneumothorax and allow the lung to re-expand is usually irrevocable once such a decision is carried out.

#### CONCLUSION

Experience has proved that ambulatory pneumothorax answers the three essentials for any treatment regimen prescribed for tuberculosis. Toxemia and spread of the disease is checked. Positive sputum is converted to negative sputum. The patient is restored to working capacity.

In addition to the fulfillment of these three essentials ambulatory pneumothorax also has definite economic and health aspects. Ambulatory pneumothorax would result in the immediate care of more than 200,000 patients throughout the United States. In Arizona alone it would be possible to treat 700 patients by this most scientific and economic means.

It is quite evident that with a coordinated plan and with the proper personnel we could accommodate the large majority of tuberculous individuals now clamoring for admission to our sanatoria without further delay. We should be able to place them under treatment as soon as diagnosed in either a local hospital or sanatorium. Every patient treated successfully in a local hospital makes available a bed in a sanatorium which he would have eventually occupied under our present system. Even were such a coordinated plan in full force today, sanatoria would still have long waiting lists. There are now five patients waiting to fill each available sanatorium bed. Arizona must in some way cope with this need. It is obvious that additional sanatoria are necessary and of primary importance, but this problem cannot be discussed here. Suffice it to conclude that the organization of pneumothorax clinics and the construction of new sanatoria offer the only full and complete solution to the problem.

#### SUMMARY

1. In spite of published statistics Arizona in

actuality is the ideal place for the treatment of pulmonary tuberculosis.

2. Twenty-five per cent of the tuberculous population having active pulmonary tuberculosis can be treated by ambulatory pneumothorax, by which is meant a short period of hospitalization of two to four weeks in a local hospital during which time the collapse of the diseased lung is established, followed by regular visits to the out-patient pneumothorax clinic for refills, the patient remaining at home in bed, under supervision, during the interim.

3. Ambulatory pneumothorax is preferably limited to the individual presenting the early lesion. This is the patient whose disease is unilateral and in whom there is a reasonable chance for success without undue risk.

4. Pneumothorax clinics should be established in conjunction with a local hospital. Each hospital should afford two or more beds for tuberculous patients. An experienced physician versed in the administration of pneumothorax should be in charge of the clinic. A nurse should be included as an integral part of the clinic. Her duty it would be to carry out follow-up and education of each patient under treatment.

5. Sanatorium beds should be reserved for the more seriously ill who would not do well under ambulatory pneumothorax treatment or for whom such treatment is not suitable. We should attempt to place all tuberculous patients under treatment in either a local hospital or sanatorium as soon as the diagnosis is made. The economic and social value of the plan is self evident.

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### DISCUSSION

DR. SMITH: Thank you, Dr. Phillips. For the benefit of those who came in late, Dr. Phillips read a paper by Dr. Melick, who was unable to be here. The paper is now open for discussion.

DR. HOLMES: I am interested in pneumothorax, especially of this type. This plan necessitates the expenditure of a good deal of money in itself and is not particularly an economical scheme. It costs a little over \$4.50 a day in the hospital, and that would be \$150.00 for each case. That number given by Dr. Melick who are entitled to treatment in Arizona must be very low. I have 110 cases myself.

DR. PHILLIPS: There are at least 700 now under collapse. He means cases treated at the public expense.

DR. HOLMES: I would say that not more than 10% of my collapse cases have ever been in a hospital. It would seem that a hospital charge of \$150 would be a very considerable amount for most of them because they are not able to pay more than \$3.00 a pneumothorax treatment. My experience has been that many of these patients for care have little. There is only one emergency which cannot

be handled, from which you can't worm out of, and that is spontaneous pneumothorax. We have adopted one system, and we have a great many of these cases in homes. We put them in the car and race to the hospital, but ordinary complications can be taken care of by removing them to the hospital. I am speaking of people who do not have the money. I would only say, in commenting on this paper, that I believe very firmly in pneumothorax but I would say that I think it is not at all necessary to hospitalize these patients. I base that on experience of many thousands of cases where we have not done that. In mentioning one of the criteria, an arbitrary rule of three years is given. I heard a talk in which they varied from one to five years, so I am sure that would be a very arbitrary rule. I had the weather man figure out the change in altitude between here and Prescott, and that would be 170 c.c. per 1000 c.c. in the patient.

DR. SMITH: Any further discussion? Do you have any closing remarks, Dr. Phillips?

DR. PHILLIPS: I would like to thank Dr. Holmes on behalf of Dr. Melick. He put in that business of the sedimentation tests as the least important of all his criteria. It often lags behind any other signs of improvement. We have been trying, that is the Board of Tuberculosis Control, to institute something of this general sort up at the State Welfare Sanatorium, not only to get the turnover, but to get the patients back into their communities. If this could be provided, it would be very desirable.

## Differentiation of Parietal and Intra-Abdominal Pain

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ALL abdominal pain and tenderness is not due to intra-abdominal disease. Pain and tenderness of the parietal wall is a frequent and common cause of abdominal pain and tenderness. J. B. Carnett<sup>\*1</sup> refers to parietal pain and tenderness as intercostal neuralgia or parietal neuralgia. This term is used to indicate a symptom complex, and not a separate disease, the cause of which may be due to various conditions as upper respiratory infections, toxemia, poor posture, trauma of spine, arthritis of the spine, various spinal cord lesions and any combination of two or more of these factors. This symptom complex may be manifest in any part of the body, however, in this paper the discussion is limited to the abdomen.

### INTERCOSTAL OR PARIETAL NEURALGIA

Intercostal neuralgia may be acute or chronic, transient or persistent. The severity of the pain is variable. The type of pain or symptoms of intercostal neuralgia are varied. Carnett<sup>2</sup> has grouped them into four groups according to the severity of the symptoms, i.e., Group I. Severest form (which is relatively rare) may be manifest by colic or strangulation pain. These pains have been described as tearing apart, tearing of flesh, stabbing, grinding—vice like, distention, unable to breathe. Group II. Less agonizing than Group I—pain may be shooting, knife like, stabbing, colicky, cramp like, pounding. Group III. Milder form—patients

complain of pains as drawing, pulling, dragging, throbbing, pressing, aching, sickening, bloated, cutting. Group IV. Mildest form. In this form the complaint is an ache, soreness, burning, pins and needles.

The entire nerve supply of the lateral and anterior abdominal wall comes from the lower seven intercostal nerves and the first lumbar nerve. (2) The pain and tenderness of parietal neuralgia may effect any part of the abdomen depending on the particular nerves involved. It may be generalized, localized, unilateral or bilateral. The predominance of neuralgia is in the tenth, eleventh, twelfth intercostal nerves, and the first lumbar nerve. (3) "As a rule irritative lesions affect only the sensory fibers, but in very exceptional instances the motor fibers are also affected and then muscular rigidity will be encountered along with abdominal pain and tenderness."

Abdominal intercostal neuralgia may simulate any intra-abdominal affection which has pain and tenderness among its outstanding symptoms, depending upon the nerve or nerves involved. It may simulate gastric ulcer, gall bladder disease, appendicitis, kidney lesions, tubo-ovarian disease, etc. This simulation of visceral disease may present itself in acute, subacute or chronic form, depending upon the severity of the parietal neuralgia. It can be safely said that it is an imitator of intra-abdominal disease.

Parietal neuralgia may co-exist with an acute

\*Read before Arizona State Medical Association, Phoenix, April 13-15, 1939.

intra-abdominal lesion. (4) "Except for acute pelvic infection it is comparatively rare for an acute attack of parietal neuralgia to co-exist with any acute intra-abdominal lesion. The most common associated acute lesion and yet a very infrequent one is acute appendicitis."

Parietal neuralgia and an intra-abdominal lesion may both be present at the same time, as for instance neuralgia involving the area overlying the gall bladder. There may be present a chronic cholecystitis with stones which is causing symptoms at the same time there may be present intercostal neuralgia giving rise to pain and tenderness of the parietes overlying the gall bladder area. The parietal pain will not as a rule be relieved by cholecystectomy, but will persist after the operation. The percentage of failures of cures for pain in so-called chronic appendicitis, as we all know, is quite high, ranging from 10% to 40%<sup>4</sup> (Bettman). This failure is probably due to the presence of intercostal neuralgia which was overlooked.

Because parietal neuralgia is present does in no way exclude the possibility of a co-existing intra-abdominal lesion. The diagnosis of an intra-abdominal lesion is often more difficult in the presence of an overlying intercostal neuralgia.

It has been the experience of Carnett<sup>3</sup> that intra-abdominal lesions of any kind rarely give rise in themselves to parietal pain; this has also been my experience during my observation of the past six years. Errors in diagnosis can easily occur if the abdominal parietes are not thought of as a possible location of abdominal pain. If the parietes are not considered as a possibility the symptoms are likely to be wrongly attributed to a lesion of an intra-abdominal viscus underlying the localized area of greatest pain and tenderness.

We have all had cases of abdominal pain that have been operated for what we thought was a chronic appendix. Temporarily following the operation the pain and tenderness for which the patient was operated has been relieved. Then the patient has returned complaining of the same pain as before operation. The patient has again been operated for adhesions or for something else intra-abdominal which was thought to be causing the pain, and again without relief of pain. These patients have drifted from one doctor to the other and had several operations without relief of pain. We are all familiar with this class of patient. In many of these cases parietal neuralgia has been overlooked as the cause of the abdominal pain and tenderness.

Carnett<sup>1</sup> in his original paper on "Intercostal Neuralgia as a Cause of Abdominal Pain and Tenderness" described what he called the A and B test for differentiation of parietal and intra-abdominal pain and tenderness. It is this test I would like to call to your attention as a means of making the differential diagnosis between intra-abdominal and parietal pain. Since his original description novocain injection of the intercostal nerves has been

used to disassociate the two types of pain, i.e., parietal and intra-abdominal.

#### "A & B" TESTS

Test A. The abdomen is examined in the usual way with relaxed muscles, palpation is carried out in the usual way. The fingers will press rather deeply into the abdomen or they may be stopped by true or voluntary rigidity. This part of the examination will elicit tenderness of all three sensory layers of the abdominal wall, i.e., skin, muscles, peritoneum, and intra-abdominal pain and tenderness.

Test B. This consists of two parts. 1. Test for skin and fat tenderness. This test is carried out by picking up a liberal fold of the skin and fat between the thumb and index finger and pinching these structures between the fingers. (It is usual that at first one is afraid to pinch vigorously enough.) The result will be no pain to acute pain. I have personally graded the type of reaction from no reaction to four plus. This has given me a yardstick by which to record the mildness or severity of the tenderness.

2. Test for muscular tenderness. This can be carried out in one of two ways. The patient is asked to balloon out the abdomen and hold the muscles very tense. The abdomen is then palpated with the fingers. The palpation should be vigorous. The other method is to have the patient raise the head which in itself tenses the muscles and then have the patient further tense them voluntarily. Examination is then carried out as already described. Here again the pain and tenderness is graded from no reaction to four plus. Any pain and tenderness elicited is located in the skin, fat, and muscles, and is not intra-abdominal. No peritoneal tenderness is elicited (1) "because thoroughly tense muscles protect the underlying sensitive peritoneum from painful pressure." This can be demonstrated very easily in gangrenous or perforated appendicitis, with the muscles properly tensed, most drastic pressure can be made without causing pain, the following two cases illustrate this point:

#### CASE REPORTS

J. S., negro, male, age 34 (1938), seen in consultation with Dr. J. S. Gonzales, complained of abdominal symptoms suggestive of food poisoning with pain in right lower abdomen. Examination—Temperature 101. In the right lower abdomen there was acute pain and tenderness, some rebound tenderness, a positive Brittain's sign. The tests for intercostal neuralgia were negative. When the patient ballooned out the abdomen and made it tense the most vigorous poking and pressure elicited no pain or tenderness. However, as soon as the muscles were relaxed and the abdomen again palpated there was acute pain and tenderness. Operative diagnosis—gangrenous appendicitis.

The following case is one of perforated gangrenous appendicitis: B. C., age 10 (1938). This patient was also seen in consultation with Dr. J. S. Gonzales. A small acutely tender mass the size of a hen's egg was found in the right lower abdomen. There was no intercostal neuralgia to tests B-1 or B-2. When the abdomen was ballooned out and the muscles held very tense, no tenderness or pain was elicited on palpation, however, as soon as the abdominal muscles were relaxed and palpation car-



ried out, there was elicited acute pain and tenderness.

It has already been pointed out that parietal pain and visceral pain may both be present at the same time, and that the presence of parietal pain and tenderness in no way excludes the possibility of intra-abdominal pathology. Parietal pain can be eliminated by novocain injection of the nerves. After the elimination of parietal pain any remaining pain and tenderness elicited by the usual routine examination is intra-abdominal.

It has been interesting to observe that in cases of acute appendicitis after the parietes have been anesthetized that the visceral or peritoneal tenderness increases. This is because the overlying protection of the muscles has been abolished. The following case very nicely illustrates this point:

P. K., white, male, age 34 (1934). Patient had chronic right lower abdominal parietal neuralgia due to poor posture, scoliosis. He was taken ill with symptoms suggestive of acute appendicitis. He was ill two days before I saw him. Examination of abdomen—three plus neuralgia to tests B-1 and B-2 in right lower abdomen. There was muscle spasm, rebound tenderness and a positive Brittain's sign. I felt quite sure of intra-abdominal pathology, in spite of neuralgia symptoms, because I had found the neuralgia on a general examination previously. The case was operated, under local anesthesia because of chronic pulmonary tuberculosis. The ilio-inguinal and ilio-hypogastric nerves were injected with novocain. As soon as anesthesia took effect parietal tenderness was entirely gone. The pain and tenderness elicited by routine abdominal examination was now very much increased, which confirmed the diagnosis of intra-abdominal pathology. The operative findings were gangrenous perforated appendicitis. (The removal of his appendix did not relieve the intercostal pain except temporarily.)

#### TECHNIC OF INJECTIONS

The novocain injection is simple and without danger when the injections are made at the sites to be indicated later. The nerves to be blocked depend upon the area involved. It is not necessary to inject the nerves directly, for injection about the nerve will give the desired result. Carnett and Bates use 3 c.c. of a two per cent novocain solution. I, personally, have used 5 c.c. of a one per cent solution with satisfactory results. The solution is injected in the immediate vicinity of the affected nerve, the effect of the anesthetic will usually be manifest in five to ten minutes. When the nerve is hit directly anesthesia is almost immediate.

(4) Because of the close relationship of the nerves to the pleura and peritoneum in the early part of their course after exit from the intervertebral foramen, injection here is likely to be dangerous, because of possible injury to the underlying viscera. Between the posterior and anterior axillary lines the nerves lie superficial to the internal intercostal muscle in the chest and anterior to the transversalis in the abdomen. For the seventh, eighth, ninth, tenth and eleventh intercostal nerves Carnett<sup>1</sup> recommends the injection be made just anterior to the posterior axillary line. The

subcostal or twelfth intercostal nerve is injected at a point near the free end of the twelfth rib.

When the lower part of the abdomen is in question injection of the ilio-inguinal and ilio-hypogastric nerves is made. This is easily done by making the injection at a point one inch medial to the anterior superior iliac spine on a line with the umbilicus. Carnett points out, it is best to have the patient tense the muscles because it is easier to recognize when the needle passes through the external oblique aponeurosis. The solution is deposited between the external and internal oblique muscles.

#### USE OF NOVOCAIN BLOCK

The use of the novocain block is a very practical and valuable procedure in proving that the pain and tenderness is purely parietal as is exemplified in the following case.

F. R., Mexican, laborer, age 38 (1938), complained of pain and tenderness over the entire abdomen of three days' duration, with acute pain in the right lower abdomen. He had slight nausea, but no vomiting, the former of about twenty-four hours' duration. Temperature 99, white blood count 14,200 with 82% polymorphonuclears. Abdominal examination revealed tenderness over entire abdomen on routine examination (Test A). To Test B, there was two plus pain and tenderness over entire abdomen with four plus pain and tenderness in the right lower abdomen. (The patient was recovering from an acute upper respiratory infection.)

I felt quite sure this was a toxic parietal neuralgia. It was possible, however, that an acute appendicitis co-existed with the parietal neuralgia. I injected the right ilio-inguinal and ilio-hypogastric nerves with 5 c.c. 1% novocaine. Five minutes later there was no evidence of parietal pain in the right lower abdomen. Routine examination of the right lower abdomen was entirely negative. The rest of the abdomen presented the same picture as on the first examination. Diagnosis—toxic parietal neuralgia.

When we look for parietal pain as a diagnostic possibility it is surprising how frequently it is found. This diagnostic possibility is frequently overlooked with the result that many fruitless intra-abdominal operations are performed when the source of the pain lies outside the abdomen.

With the simple tests described, it is possible to differentiate and disassociate parietal from intra-abdominal pain and tenderness, thereby saving many useless operations.

I, again, want to stress the point that patients who have a parietal neuralgia are not in any sense immune to any form of intra-abdominal lesion. It is important, however, that care be taken to disassociate the parietal symptoms from those indicating a true intra-abdominal lesion.

#### CONCLUSION

A method has been described for the differentiation and disassociation of parietal neuralgia from intra-abdominal pain and tenderness.

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#### DISCUSSION

DR. HOGELAND: Dr. Noon's paper is now open for discussion of any questions that might be asked.

DR. BATE: Mr. Speaker, I think that Dr. Noon's paper is very well taken at this time. One of the leading pathologists once remarked: "So long as the abdomen remains opaque, we scarcely know what is inside." Dr. Noon has called attention to the structure and nerve supply of the abdominal wall and has described a method whereby we are able to differentiate intra-abdominal and parietal pain by the use of our fingers and eyes. The simple procedure which Dr. Noon described should form a valuable instrument in the armamentarium of the surgeon who is confronted with the problem of differentiating intra-abdominal from parietal pain.

DR. BANKS: Dr. Noon is to be commended for bringing this subject to the attention of our meeting. Parietal neuralgia is a very important diagnostic entity, and as Dr. Noon said, was pointed out by Dr. Carnett some years ago. I believe I learned more medical diagnosis from Dr. Carnett than I did from any other person. There is no more reason for assuming that a patient has chronic abdominal or intra-abdominal disease than to be assuming that the patient has a headache when he has a scalp ache. Similarly, a patient may have pain in the abdominal wall and not have intra-abdominal disease. There are many ways of making a wrong diagnosis in appendicitis. You may merely poke the abdomen, find tenderness, and decide on chronic appendicitis. The only way to rule out error is in using these tests. The recognition of voluntary body mechanics is very important because the recognition of such a condition will point out the cause of parietal neuralgia. What is the use of removing the appendix from a young female who has faulty posture and other body mechanics. I feel convinced that no one can appreciate the subject of parietal neuralgia by listening to such a paper, but to study it once it is published, and to apply it to your patients and you will realize how many patients are suffering from intra-parietal.

DR. HOGELAND: If there is no further discussion, will you close the discussion, Dr. Noon?

DR. NOON: I do not believe I have anything to add, except to thank Dr. Patton and Dr. Bank for their discussion. I hope you will all give this test for differentiation of intra-abdominal pain and parietal pain a chance, and I think it will pay big dividends.

DR. HOGELAND: Thank you, Dr. Noon. I think the paper was very interesting. I have a case where I operated for acute appendicitis and this girl continues to have pain. We are not going to do anything more, but when I get back home I am going to study this paper and find out where this pain is coming from. You will teach the old dogs new tricks, after all.

## Common Feeding Difficulties in Pediatric Practice

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THE opportunity for observing and attempting to correct some of the common difficulties encountered in feeding infants and children frequently falls to the lot of the pediatrician. Therefore it may be both pertinent and profitable to us all to consider a few of these difficulties as met with in practice and by our exchange of ideas stimulate enough interest to affect the welfare of the infants concerned.

#### BREAST FEEDING

Since the milk of every mammal is specific for its young and since the perfect substitute has not yet been found, it behooves us to make every intelligent effort at maintenance of breast feeding. Grulee<sup>1,2</sup> has always been an ardent champion of the maintenance of breast feeding; and, in urging efforts along this line, has pointed out the relative cheapness of the milk, the comparative ease for the mother, and the superior general health of the breast-fed infant as compared to the bottle-fed.

However, we must realize that numerous demands are currently made upon the modern woman—the economic necessity of return to work after arrival of the infant or the requirements of social functions, etc., all of which tend to curtail breast feeding. Although the most efficient galactagogue is a vigorously nursing infant, one should never lose sight of three fundamental physiological facts upon which successful breast feeding depends: (1) there must be regularity of feeding; (2) there must be complete emptying of the breast at each nursing; (3) stimulation may be increased by nursing from both breasts at each feeding.

#### FEEDING FAULTS

Failure to thrive on the breast may be due to underfeeding, to overfeeding, or to inherent faults in the mother. An infant suffering from underfeeding is restless, cries a great deal from colic, fails to gain properly, exhibits poor tissue turgor, and may be either constipated or may have numerous dark green "starvation" stools. Vomiting may be a frequent symptom of such an infant, and is

<sup>1</sup>Read before New Mexico Medical Society, Gallup, May 11-13, 1939.



due to swallowing air from nursing an empty breast. Naturally under such circumstances a nervous tension is very apt to arise in the mother which may be reflected in the infant and a vicious circle becomes established. The remedy consists in a proper complementary or supplemental feeding (to be discussed later), the use of sedatives for the infant, firmness in handling both mother and infant, and the use of a quiet room for the infant.

An overfed infant is a restless, uncomfortable baby who gains too rapidly (over 8 or 9 ounces a week), regurgitates his feedings (which may cause a loss in weight if persistent), has rather loose stools filled with greasy curds, and who may have much colic, gas and hiccups from too rapid feeding with resultant air-swallowing. This is the type of infant who is not infrequently weaned because "the milk disagrees", when the proper procedure would be a decrease in the feeding time and a dulling of the appetite by an ounce of water or Casec solution immediately preceding the breast feeding.

There may be other conditions present, such as faults in the mother, which by their mere presence may so interfere with successful breast feeding that all our efforts at maintenance of a breast milk supply are defeated. An anxious mother, especially if the infant is her first child, may by her anxiety cause a reduction in her milk supply and thereby initiate the vicious circle described previously. Depressed and retracted nipples make it difficult for even a vigorous infant to nurse long enough to stimulate the flow of breast milk sufficiently or may so discourage the infant that he completely refuses to nurse. Appropriate treatment by systematic massage and the use of a mechanical breast pump in many cases remedies this defect. Cracked nipples, by causing pain in the mother, frequently lead to weaning, although the employment of a nipple shield and appropriate local applications may overcome this fault.

On the other hand it is not out of order to sound a warning against the danger of attempting to keep an infant exclusively on the breast for too long a time when the infant should be receiving additional food; this is especially true at the present time since we have at our disposal more advanced yet simplified methods of feeding, a greater variety of foods from which to choose and adequate refrigeration of the formula after it is prepared. Far too often we see such a baby who is fretful, gains poorly, has become pale and has flabby tissues, but who is allowed to nurse the breast whenever he so desires in an attempt to keep him on the breast as long as possible. Do not allow such a state of affairs to develop. Any normal young infant that is on the breast alone, who is not vomiting and who has no diarrhea, but who is not gaining, is not getting enough to eat and should be given more. (Brennemann<sup>3</sup>).

#### COMPLEMENTARY AND SUPPLEMENTARY FEEDING

Let us therefore consider the question of addi-

tional food. A complementary feeding is that term applied to a bottle feeding which immediately follows a breast feeding. Supplementary feeding is the replacement of one or more breast feedings by a bottle feeding.

There is unanimous agreement among all authorities on infant feeding as to the importance of breast milk in feeding the premature infant. Dr. Julius Hess<sup>1</sup> states "Human milk is the food of choice for the premature infant and this applies more especially to small infants". Marriott<sup>5</sup> and Brennemann<sup>6</sup> have also counseled the use of human milk for these infants. However, these authorities all find it advisable to increase the protein intake of the premature infant by the addition of 1 part skimmed lactic acid milk (buttermilk) to 3 parts of breast milk.

In the choice of a supplemental feeding for premature infants, many milks have been employed with varying success, among them being lactic acid milk, protein milk, condensed milk, evaporated milk and the various processed milks such as Similac, Dryco and Lactogen. Brennemann<sup>6</sup> frankly states his preference for condensed milk, especially for the feeble, apathetic premature, and quotes as his authority Bachmann, who secured his best results in 511 cases employing condensed milk. I desire to subscribe to this opinion also, since I have found condensed milk the best substitute for human milk in feeding premature infants. It should be clearly understood, however, that condensed milk is deficient in fats and proteins, and should therefore be either modified or replaced by a balanced formula as rapidly as the infant's tolerance permits.

Of recent years there has been considerable discussion about the advisability of using a prelacteal feeding or hydrating solution, such as first advocated by Kugelmass, in an attempt to reduce the initial weight loss of the newborn and prevent an inanition fever. This solution is given at regular intervals during the first 3 or 4 days of an infant's life while the breast milk is coming in. I consider this a desirable procedure in the weak or apathetic infant, but its advisability is open to serious question in the case of the vigorous full term infant. Dr. Charles Hendee Smith<sup>7</sup> states, "It has not been shown that it is worth while to attempt to avoid this loss" (of weight), and Poncher<sup>8</sup> has warned that "many babies have been unnecessarily weaned from the breast because of the injudicious use of the prelacteal feeding". It is probably wiser to use a moderate amount of such a feeding together with an abundance of water, but not to the point of complete satisfaction of the infant's appetite. Complementary feeding of the new born infant may produce the same result as the injudicious use of a prelacteal feeding. Rodda and Stoesser reported that in one Minneapolis hospital giving complementary feedings as a routine, 63% of the new born infants were wholly breast fed on discharge; while in another hospital where complementary feedings were not given as routine, 92.2% were wholly breast

fed on discharge. The best stimulant of an abundant supply of breast milk is a vigorously nursing infant and he will not nurse vigorously if his appetite has been satisfied.

#### UNDERFED BREAST BABY

The underfed breast baby is usually a miserable little creature who upsets the entire household by his fretting and crying, his vomiting and attacks of colic. Frequently the mother is worn from her heroic struggle to maintain the baby on the breast to the detriment of both her health and that of the infant. The stools of this infant are characteristically green or brown with many greasy soft curds which produce excoriated buttocks; this condition is due to the ingestion of a small amount of breast milk rich in fat. The use of a complemental feeding in conjunction with breast feeding may remedy the difficulty especially if a food of low fat content is chosen. Kerley<sup>9</sup> has stated, "When a mother cannot give her infant at least 2 satisfactory breast feedings daily, it is advisable to wean the child". Most intelligent mothers will be able to determine at what point it is no longer advisable to keep the infant on the breast.

#### CHOICE OF FEEDING

In our choice of food for complemental and supplementary feeding, we have a great variety from which to choose ranging from fresh cow's and goat's milk, evaporated milk and condensed milk to the various processed and reconstructed milks. Because of the physiological fact that infants tolerate fat rather poorly and because of the high content of irritating volatile fatty acids in cow's milk, it is desirable to use a partly skimmed milk at first. Therefore, let me at this point warn you of the dangers of upset attending the use of Jersey milk in infant feeding, which well-meaning parents may use to produce a very inferior type of infant to be described later under "Fat Intolerance". Many infants tolerate evaporated milk, either with or without the use of lactic acid, and many can take partly skimmed fresh cow's milk. One of the most satisfactory supplemental foods in my experience, especially in young infants, has been the partly-skimmed processed milk Dryco. In some cases the only milk an infant will tolerate is condensed milk; the danger from the use of such a milk high in carbohydrate and low in fat and protein content is the production of a fat, flabby baby lacking in resistance to any infection. This danger can be readily obviated by fortification of the condensed milk formula with soy bean flour as advocated years ago by Ruhrah<sup>10, 5b</sup>. Infants fed on this type of formula are superior specimens, and I heartily recommend its use.

#### ECZEMA

It may be in order to say a few words about eczema due to sensitivity to cow's milk. Many formulae have been devised to feed these infants after the failure of the breast milk supply. Churned buttermilk has proven effective in some instances, goat's milk has afforded relief in others. In some

of the reconstructed milks (such as Sobee) the cow's milk protein has been replaced by soy bean. It was Kerley who first recommended the use of heat-treated evaporated milk cooked for from 3 to 6 hours in a double boiler; by this treatment the protein of the cow's milk is changed so that it is less irritating to the allergic infant. In quite a few instances success may be achieved by the use of fresh skimmed milk cooked similarly and employing for the added carbohydrate the non-allergic Alerdex. All of these formulae are worthy of trial in any given case of eczema in the reasonable hope that one method will prove effective in affording relief to a distressed infant and mother. Of course if the eczema is due to foods other than milk or to surface contact with various allergens, changing the formula will have no effect on the skin condition, and therefore other measures become indicated.

#### FAT INTOLERANCE

One of the most common conditions that we pediatricians encounter in the artificial feeding of infants is fat intolerance. I believe that the fat content of cow's milk causes more trouble than any other ingredient, and in some instances the fat seems to affect the infant as if it were a slow poison. Infants suffering from this condition are usually pale, have poor tissue turgor and considerable abdominal distension and have a poor appetite. The stool may be that of the typical *Milch-nahrschaden* of Czerny—extreme constipation, dry grey foul soap stool (made up largely of salts of fatty acids) that does not adhere to the diaper—or the stool may be quite variable in character from the grey constipated to the loose greenish curdled stool full of mucous, greasy fat curds and even blood streaks. The remedy consists in the use of a fat-free milk or a change to another animal milk. Fresh or sour skimmed milk may be tolerated, or a powdered skimmed milk may be necessary (Merrell-Soule powdered skimmed milk). Whole or skimmed goat's milk may prove suitable. Two cases recently from Mexico were treated successfully on burro's milk, one infant being a 7-month-old baby who weighed 7 pounds at the start of the new milk. The secret of success of the burro's milk is probably the low fat content of 1% and its chemical resemblance to breast milk.

#### CELIAC DISEASE

Celiac disease is a condition closely allied to fat intolerance seen rather frequently in this region, and may begin as early as the second half of the first year or may begin following a protracted diarrhea. The fault lies in the inability of the organism to digest fat together with an associated carbohydrate intolerance. The typical well-advanced case is characteristic—the pale pinched face, extreme wasting of the extremities and a protuberant soft abdomen often markedly distended with gas occurring in an individual who exhibits marked irritability and stunted growth. The stools are voluminous—greater in amount than one would expect from the



food intake—frequent, pale grey, very foul smelling and quite often filled with gas bubbles. This type of diarrhea may alternate with constipation. Owing to the chronic nature of the condition, the diet must be adhered to for years with relapses occurring not infrequently. The diet consists in rigid exclusion of the carbohydrates and a high protein diet of fat-free buttermilk or protein milk, curds made from skimmed milk and with the gradual addition of the protein of egg, meat, etc. As Haas<sup>11</sup> originally showed, ripe or powdered banana is usually well tolerated even to the extent of a dozen a day. Recent work has stressed the importance of the inclusion of sufficient vitamins in the form of Oleum Percomarphum and tomato juice and brewer's yeast, as well as mineral salts, iron and liver in the diets of these patients. The addition of other articles to the diet is a gradual process, each new addition being in the manner of an experiment, until after a year or two these patients may take almost a normal diet except for a sparing use of sugars and sweets.

#### PYLOROSPASM

The so-called hypertonic infant is encountered rather frequently in pediatric practice. Because of his fretfulness and persistent vomiting he is usually changed from one feeding to another without benefit. These infants are characterized by a generalized tenseness of the voluntary muscles of the body as well as by an overactivity of the sympathetic nervous system producing pylorospasm. Clausen's<sup>12</sup> criteria for diagnosis are: gastric peristalsis, projectile vomiting, absence of a palpable pyloric tumor and relief of symptoms by physiological doses of atropine or by sedatives or by thick feeding. In my experience thick feedings low in fat preceded by from  $\frac{1}{42}$  grain to  $\frac{1}{6}$  grain of luminal at each feeding have usually proven effective in affording relief. In these measures fail to relieve the symptoms, congenital pyloric stenosis must be considered even though no pyloric tumor can be felt.

#### CONSTIPATION

We frequently meet the constipated infant or child whose solicitous parent implores us to give relief. This, however, is not always a simple matter, especially if the patient is one possessing irregular feeding and toilet habits who is allowed to eat between meals or if he has become habituated to enemata. The establishment of regular toilet

habits together with the temporary use of mild laxatives or mineral oil may relieve the situation. In cases of fat intolerance, removal of part of the butterfat from the diet is of aid. The use of laxative foods, such as mashed or chopped vegetables, stewed fruits, Karo or prune pulp and figs should not be neglected. Brer Rabbit green label molasses, by increasing fermentation, works wonders in many cases. Megacolon, that condition in which there is a tremendous increase in the caliber and length of the large gut, should always receive consideration as a possible cause of constipation, especially since effective treatment in this condition is of a different nature than treatment employed in the usual case of constipation. Patients suffering from megacolon obtain a great measure of relief by the use of a low-residue concentrated diet and are made worse by the bulky diets employed in the usual case of constipation. A tight rectal sphincter is the cause of constipation in a number of infants; it may usually be corrected by the insertion of a well-oiled finger into the rectum and by passage of firm feces which tend to smooth out the obstructing folds.

Finally, there is a certain type of individual whom I choose to characterize by the term "lazy bowel" whose general muscle tone, especially the smooth musculature of the bowel, is extremely poor because of a vitamin B deficient diet. The administration of vitamin B complex to such an individual usually produces a more normal intestinal tone with the result that constipation becomes relieved and the appetite improved.

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## Tuberculosis of the Tonsil

(Resume of Literature with Report of a Case)

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**C**LINICAL tuberculosis of the tonsil is a fairly rare condition. Considering that the tonsil is a lymphatic structure and that the tubercle bacillus has a predilection for lymphatic tissue it is strange that this should be so.

Tonsil tuberculosis may be divided into (1) oc-

cult, or non-clinical and (2) manifest, or clinical, and also into (1) primary, and (2) secondary.

Occult tonsil tuberculosis is more common than we suppose. Various authors have reported from 0.5 to 6% occult tuberculosis in tonsils routinely examined at operation in different large institutions.

Manifest tonsillar tuberculosis is a much more rare condition and even as secondary to pulmonary tuberculosis is seen in a very small percentage of cases. Manifest or clinical tonsil tuberculosis may be in the form of either a tuberculoma, miliary tubercles, a superficial (lupus like) ulceration, or a deep infiltrative process. The last two are the more common of these types. Some authorities believe that tuberculosis of the tonsil is practically always secondary to some process elsewhere in the body. However, 57 cases have been reported in the literature up until the middle of 1937 as primary tonsillar tuberculosis<sup>1</sup>.

It is the purpose of this paper to review briefly some of the literature on this subject and to report a case of clinical tuberculosis of both tonsils.

Wood<sup>2</sup> in 1905 collected in the literature 1671 cases of tonsils removed and examined microscopically. The percentage of tuberculosis in these was 5.2%.

Sewall<sup>3</sup> in 1911 reported 6.2% tuberculosis in 772 cases of tonsillectomy.

Crowe et al<sup>4</sup> in 1917 found 4.6% tuberculosis in 1000 cases.

Weller<sup>5</sup> in 1921 reported on 8,697 tonsils removed at the University of Michigan Hospitals and routinely examined microscopically for evidence of tuberculosis. He found the evidence of tuberculosis in tonsils removed for chronic tonsillitis to be 2.35%.

Mullin<sup>6</sup> in 1923 analyzed 400 cases and found that 4.25% were positive microscopically for tuberculosis. Seventeen per cent of these cases had some evidence of tubercular gland infection. Eliminating these, the remaining cases operated upon showed the presence of tubercles in 1.25%. He states that in advanced pulmonary tuberculosis the tonsils will show evidence of involvement in the majority of the cases. In chronic glandular tuberculosis (cervical) he believes 50% will show evidence of tuberculosis in the tonsils.

MacCready and Crowe<sup>7</sup> in 1924 reported 3,260 cases operated, with tuberculosis of the tonsils in 4.18%. Fifty of these cases that were microscopically positive were followed for five years by repeated chest x-rays and none showed any pulmonary involvement. They concluded that the tonsils which showed only occult tuberculosis with no other signs of the infection elsewhere were unimportant clinically and that these patients should not be stigmatized with the diagnosis of tuberculosis.

Wilkinson<sup>8</sup> in 1929 reported 10,000 pairs of tonsils examined microscopically at the Mayo Clinic during the years from 1923 to 1927. All the tonsils removed showed chronic tonsillitis. Fourteen per cent showed unusual pathological changes; 11% had some cartilage or bone structure, 0.5% showed tuberculosis, 0.06% showed the presence of trichinae. He stated that an analysis of this large group showed that the percentage of tuberculosis in tonsils removed was declining.

Paterson<sup>9</sup> 1929 reported 161 cases of tuberculosis of the cervical glands in which the tonsils had been

removed and examined microscopically. Thirty-five per cent of these were positive. He recommends that in cases of tuberculous cervical adenitis the tonsils should always be removed. The acid-fast bacillus, he states, may pass through the tonsils in children to the glands without leaving any evidence in the tonsils.

Dickey<sup>10</sup> in 1930 reported a case of a six-year-old boy with a tuberculous ulceration of both tonsils which he considered a primary infection. The patient was well three years after tonsillectomy. He says that the bacilli first gain entrance into the crypts and then invade the germinal centers of the tonsils and spread to the cervical glands from there.

Webster<sup>11</sup> in 1932 studied 132 cases. Eighty-six per cent of these had tubercular glands and of these 46% showed evidence of the infection in the tonsils. The remaining 46 cases who had simple hypertrophy of the tonsils were all negative for tuberculosis. He advises that tonsillectomy is indicated in the treatment of tuberculous adenitis. Twenty-four of the positive cases were studied as to the type of tubercle organism; 17 of these showed the bovine type and 7 the human type of infection.

Magee<sup>12</sup> in 1937 reported a microscopic study of 6,359 cases from 1933 to 1935. Evidence of tuberculosis in these was 0.44%. Compared with 2.35% reported by Webster, he concludes that tuberculosis of the tonsils is decreasing.

Freeman<sup>13</sup> in 1937 reported a case of a man 33 years old with multiple ulcers of the tonsils, pillars, and pharynx who recovered after treatment with 50% trichloroacetic acid. This was considered a primary infection, as he could not demonstrate other evidence of tuberculosis.

Alpert<sup>14</sup> in 1938 reported 202 cases of tonsils removed from sanatorium patients. Ten per cent of these tonsils showed evidence of tuberculosis. All were negative clinically and were removed for chronic tonsillitis and cervical adenopathy; mostly in children. He also stresses the importance of tonsillectomy in cervical gland cases.

Bordley and Baylor<sup>15</sup> in 1938 reported on 69 patients that were found by microscopy to have tonsillar tuberculosis, between 1912 and 1924. The cases were reinvestigated in 1935. Forty-seven of these were operated prior to 14 years of age. Forty-five could be traced. Three cases died (only one of a tuberculous disease). The others were in good health. Thirty-two of the cases were past 14 years at operation; only 16 of these could be traced, 3 were dead (2 of pulmonary tuberculosis). Five of the remaining had some form of tuberculosis. They concluded that in pre-adolescence, occult tonsil infection meant little; in adult life it meant that the patient had a good chance of developing pulmonary tuberculosis.

Ahronheim<sup>16</sup> 1938 found 0.77 per cent of tuberculosis in 782 tonsillectomies. None of them were clinically positive and in six to eleven months after operation all were in perfect health.

Pollard & Combs<sup>17</sup> in 1938 made a follow-up study



of 107 patients who had a microscopic diagnosis of tonsillar tuberculosis. This follow-up study lasted over a period of four and a half years and the average age of the patients was 18 years. Three cases developed active pulmonary tuberculosis, one developed cervical lymph node tuberculosis, and one developed tuberculosis of the spine. Twenty cases with other forms of tuberculosis at time of operation did not develop any additional lesions. Seventy cases with no other evidence of tuberculosis did not develop any lesions. Their conclusions were that cases in which the tonsils were positive microscopically for tuberculosis should have a thorough check-up for evidences of the disease elsewhere. If this examination was negative, there would be little chance of tuberculosis developing from the tonsil infection after tonsillectomy. Patients with tuberculous tonsils and evidence of tuberculosis elsewhere should be carefully watched post-operatively for further spread of the disease.

During the past seven and a half years there have been 510 cases of pulmonary and bone tuberculosis admitted to the Southern Pacific Sanatorium (Tucson, Arizona) and during that time there has been only one clinically positive case of tonsillar tuberculosis. There have been no studies made for occult tonsillar tuberculosis. No doubt the number of them would be considerable. However, practically all the cases had positive sputum on admission and therefore were not fit subjects for tonsil surgery.

#### CASE REPORT

P. H., aged 41, admitted to the Southern Pacific Sanatorium 2-1-38. He complained of frequent colds and slight cough since 1923. He gave no history of chest pains, hemoptysis, or night sweats. He stated that for the past two years he had had frequent sore throats, off and on, lasting three and four days at a time. On December 24, 1937, while at work he fainted and was hospitalized. His best weight had been 150 pounds. This was maintained until two years ago. Family history was negative for tuberculosis. He had been employed as a stevedore.

Physical examination revealed a well developed but poorly nourished man with no evidence of dyspnea. Head, abdomen, and extremities were negative externally. Examination of the chest showed evidence of bronchial breathing in the paravertebral region with a few squeaking rales in the infraclavicular region on the right side. The left lung was essentially the same. The examination of the ears, nose and throat showed edema and thickening of the anterior and posterior pillars of both tonsils. There was an ulceration the size of a quarter on the left tonsil at the upper pole. Both tonsils were edematous. The edema of the mucosa extended into the soft palate and uvula. The posterior pharynx and the nasopharynx were very pale and edematous, with several small tubercles scattered over the surface. This deep infiltrative process extended up into the mucosa of the posterior nares and could be visualized through the nose by using a nasal speculum. The ears and anterior nares were negative. The vocal cords were freely movable. There was a moderate amount of edema of the posterior laryngeal wall. The voice was clear and the larynx was exceptionally free of gross tuberculous involvement considering the extensive process in the ora and nasopharynx.

His temperature was 99.6°, pulse 92, respiration

rate 20, sedimentation rate 125 m.m. in sixty minutes, weight 132 pounds, urine negative, blood count negative except for mild anemia, Kolmer and Kahn negative, sputum (40 c.c., 24 hours) positive for tubercle bacilli, vital capacity 2700 c.c. X-ray of the chest was interpreted as follows: tuberculosis, pulmonary, chronic, advanced, bilateral. X-ray of the sinuses was reported as negative. A smear from the tonsils was positive for tubercle bacilli. A biopsy of both tonsils was reported by Dr. Lindberg as showing evidence of a tubercular process (tubercles, granulomatous tissue a foci of lymphocytic infiltration).

The treatment of the lungs, advised at the weekly conference, was: bed rest for one month and treatment of the throat before attempting any collapse therapy. The patient insisted that all his trouble was in his throat and said he had been trying to get doctors to take his tonsils out and cure him. He treated locally with 50% trichloroacetic acid, and warm saline gargle and benzocaine lozenges were advised.

The throat was treated bi-weekly for three weeks as above with no improvement. He had considerable pain on swallowing even soft and liquid food.

Note 2-25-38. It was decided to treat the throat with 30% silver nitrate. This treatment was carried out three times at weekly intervals. No improvement.

Note 3-9-38. The process was extending into the soft palate more extensively. There was a large ulcer posterior to the last lower right molar tooth.

The patient's course was continuously downhill; the temperature varied from normal to 101°. He died 3-15-39. The cause of death was pulmonary tuberculosis, tuberculosis of the tonsils, pillars, pharynx, nasopharynx.

An autopsy performed 3-15-39 by Dr. Lindberg showed extensive tuberculous involvement of the upper two-thirds of the lungs with normal lung tissue at the bases; tuberculosis of the pharynx and tonsils; edema of the laryngeal walls; the trachea and bronchi were clear; ulceration in the terminal ileum. Microscopy showed the tuberculous process in the spleen, liver, lungs, and ileum.

This was a case of clinical manifest tuberculous tonsillitis with involvement of the soft palate and nasopharynx. It was associated with the pulmonary process and probably secondary to it, although from the history both processes may have been present for some time. The intestinal tract, spleen and liver were no doubt involved in the terminal spread of the disease.

#### COMMENT

From the literature it is evident that the number of tuberculous tonsils in those removed routinely is decreasing. It is also stressed that those tonsils showing evidence of tuberculosis, but negative clinically and not associated with other evidence of tuberculosis, are not important clinically. These patients rarely develop pulmonary tuberculosis. In the case of cervical glandular tuberculosis, the tonsils should be removed. In these cases a high percentage of tuberculous tonsils may be expected as they probably act as the entrance of the pathway to the cervical glands.

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## Dermatitis From Cosmetics

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THE use of cosmetics dates from antiquity, but it was twentieth century super-salesmanship which caused the cosmetic industry to assume such tremendous proportions. The cosmetics bill of the United States for 1934 was \$250,000.00.<sup>1</sup> The judicious use of cosmetics to enhance woman's natural charms is, perhaps, desirable. The occasionally untoward reactions resulting from their use, however, must be borne in mind. Of these, contact dermatitis is the principal form.

Contact dermatitis is a superficial inflammatory reaction resulting from contact of the skin with an irritant. It is primarily an epidermic reaction. The substance responsible may work in one of three ways:

1. It may be essentially an irritant, capable of causing a dermatitis on normal non-sensitive skin.

2. It may be a usually harmless substance to which the epidermis has become hypersensitive.

3. It may be a photosensitizer, and cause reaction only after exposure to the sun.

The type of hypersensitiveness seen in contact dermatitis is generally considered to be distinct from, and probably unrelated to, familial allergy or atopy. There are no blood reagins present, passive transfer does not occur, and the skin does not usually react to scratch or intradermal tests with wheal formation, but to patch tests with erythema and vesiculation.

Contact dermatitis is erythematous, vesicular or exudative, depending on the severity of the process. It may become lichenified only as a result of long, continued scratching, and secondary changes. The location of the eruption and the history will often give a clue to the offending agent. Patch tests properly done should confirm or deny the suspicions.

At the head of the list of cosmetics which have been found to cause dermatitis are the hair dyes. No one should have the hair, brows or lashes dyed without first having a patch test with the dye to be used. Severe and dangerous reactions about the face and eyes extending to the chest and arms are seen fairly frequently following the dyeing of even

a small lock of hair. Prosser White<sup>2</sup> gives the following classification of hair dyes:

1. Vegetable dyes, such as henna and walnut juice.

2. Mineral dyes—copper, silver or lead salts, combined with reducers such as pyrogallol or sodium thiosulphate. They form sulphides on the hair and give brown to black tints.

3. Synthetic dyes. The chief of these is para-phenylenediamine.

The vegetable dyes are generally harmless, the mineral compounds somewhat more dangerous, and the synthetic dyes by far the most likely to cause dermatitis.

So-called "hair tonics" may contain arsenic, quinine, resorcin or mercury, to any of which the epidermis may be hypersensitive.

The various essential oils used in perfumes are capable of causing dermatitis, and also a mottled pigmentation of the skin on exposure to the sun, due to the photosensitizing property of the oils. Oil of bergamot is the principal offender.

Many powders contain orris root, starch, carmine and perfumes. Some contain lead, mercury and bismuth. Of these, orris root has a particularly unsavory reputation as a skin sensitizer, but the other ingredients are also capable of causing dermatitis.

Soaps are fairly common causes of contact dermatitis. This may be from sensitization to some ingredient, or it may be from failure to rinse off the soap. If soap is left on the skin repeatedly it may cause dermatitis on a non-sensitive skin.

Depilatories usually contain barium or calcium sulphide, which are irritants.

Anti-sweat preparations contain aluminum compounds or salicylic acid, and are likely to irritate the skin if used often. This is especially true in hot weather.

The dyes, such as carmine, in rouge may cause dermatitis, and lipstick is responsible for a good many cases of cheilitis (dermatitis of the lips). Some lipsticks contain eosin, which is a photosensitizer.



Of the creams, bleaching creams are the most likely to cause dermatitis. They contain mercury or salicylic acid in slightly irritating quantities. The mercury preparations sometimes cause a bluish gray discoloration of the skin. Vanishing cream contains soap. Eye shadow is usually harmless unless it contains aniline derivatives.

The use of nail polishes and polish removers (principally acetone) may cause peeling and splitting of the nails, and dermatitis of the fingers.

Permanent wave solutions may cause severe dermatitis of the scalp and forehead, and of the hands of operators. According to Tulipan<sup>3</sup> the common ingredients are ammonium carbonate, keratin, lanolin, monoethyl ester of ethylene glycol, petrolatum, potassium and sodium carbonates, ammonium chloride, sulfonated oils, potassium sulphite and oleic acid.

Unfortunately most of the cosmetic formulas are secret, and it is difficult to know just what ingredients are being applied to the skin. However, patch tests with the preparations as actually applied will give valuable information as to the cause of the dermatitis.

During the acute stages of dermatitis a mild astringent wet dressing is most efficacious. An aqueous solution of  $\frac{1}{2}\%$  to  $1\%$  aluminum acetate is very satisfactory. Ointments should not be used

at this stage. After the acuteness has subsided, mildly stimulating preparations, such as  $2\%$  to  $4\%$  ichthyol in the form of a paste, are helpful. At this stage small doses of x-ray will hasten return of the skin to normal. If there is a moderate amount of infiltration which does not disappear readily, either x-ray, or  $2\%$  or  $3\%$  ointments of coal tar, should be used. It is best to avoid soap and water on the involved skin during the acute and subacute stages of the eruption. It is of course, necessary to avoid exposure to the offending agents.

After a cosmetic dermatitis has healed, the patient is usually at a loss to know what cosmetics can be used safely in the future. Although there is practically no substance to which the skin may not become sensitive, there are several manufacturers who prepare cosmetics described as hypo-allergic. These are free from the ingredients most commonly causing irritation. These manufacturers will furnish the physician with lists of the ingredients contained in their various preparations. It is comparatively safe to prescribe these cosmetics.

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## Hematuria and Abdominal Pain Associated with Sulfapyridine

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and

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THIS case of hematuria and pain associated with sulfapyridine is being reported to add to those published,<sup>1</sup> because of certain features that characterize it as being somewhat singular. Mrs. E. H., white female 56 years of age, was seen at home June 9, with chief complaints of cough, fever, pain in side and bloody sputum.

Her past history dates back some 15 years with an active pulmonary tuberculosis. Twelve years ago she had eleven ribs removed with complete collapse of left lung. For the past six years she has given an allergic history of severe bronchial asthma. Repeated questioning failed to reveal any urological symptoms. There was no nocturia, dysuria, renal, ureteral and vesical pains, burning or frequency.

Unfortunately, the laboratory work on this case has been held to a minimum, due to the consideration of the patient's financial status. During her previous illness, the patient was told that if she ever developed pneumonia, she "would not live 15 minutes." She has maintained a psychopathic fear of pneumonia since her thoracoplasty. Due to this situation, it was felt that probably it would be better to attempt to treat the patient at home, but as she became rapidly worse, she was admitted to the hospital June 11, with diagnosis of broncho-

pneumonia. Sputum examination revealed type XI pneumococci.

Due to her allergic history, it was considered best that serum not be used, and furthermore, that the sulfapyridine be given in most conservative doses. The patient had a total dosage of 5 Gm. over a period of four days, at which time the urinary findings revealed blood, gross and microscopic, granular and hyaline casts, a trace of acetone, diacetic acid, numerous pus cells and two plus albumin. The sulfapyridine was discontinued immediately. Concurrently with these urinary findings, the patient experienced an excruciating attack of renal colic requiring narcotics for relief. Coincidentally with this, there developed for twenty-four hours a tendency towards anuria. Fluids were forced and the patient became nauseated and could hold nothing on her stomach, 3,000 c.c. of  $5\%$  glucose and saline were given intravenously over a period of twenty-four hours, included with the last 1,000 c.c. there was one ampoule of uretone. The following day the urine showed few blood cells and few casts. At no time was the blood pressure elevated. Twenty-four hours after the administration of only 2 Gm. of sulfapyridine, which was given at the rate of  $\frac{1}{2}$  Gm. three times a day, the temperature which was

103° on admission returned to normal. The N. P. N. at the time of the hematuria was 37½ K.U.B. revealed no shadows suggestive of stones. Since the sulfapyridine was discontinued, the patient had no further attacks of colic and the convalescence was uneventful.

#### COMMENTS

1. In spite of the small dosage of sulfapyridine in comparison to cases of Southworth and Cooke, this patient developed symptoms comparable to those produced by the patients of these authors.

2. Nitrogen retention was not a feature of this case.

3. Kidney stone was not definitely ruled out because no retrograde pyelogram was made. However, the authors feel that this was not ruled out com-

pletely in the cases reported by Southworth and Cooke. Furthermore, the disappearance of the renal symptoms following the discontinuance of sulfapyridine is quite suggestive that this was an etiological factor.

#### SUMMARY

A case of hematuria associated with the administration of sulfapyridine is reported. The dosage of sulfapyridine producing these symptoms is smaller than those previously reported in the literature. The renal symptoms promptly abated with the discontinuance of sulfapyridine.

First National Bank Bldg.

#### REFERENCE

1. Southworth, H., and Cooke, C.: Hematuria, Abdominal Pain and Nitrogen Retention Associated with Sulfapyridine. J.A.M.A. 112: 1820 (May 6) 1939.

## Sulfanilamide Therapy in Mastoiditis

By

LEWIS FRANCIS MORRISON, M. D.  
*San Francisco, California*

The more or less widespread use of sulfanilamide by all branches of the profession has resulted in a mass of facts and figures. The true value of this data will not be available for some time to come. Thus far, the majority of the reports available in the literature stress the favorable results obtained. This is also true of the personal communications. This is only natural. It is not my purpose to attempt to belittle these reports nor endeavor to discourage the use of the drug wherein there is logical reason for believing that it will be of value in assisting the patient to overcome an infection. Certain facts in relation to mastoiditis have come to my attention and it is my sincere wish to present them in an unbiased manner. With the exception of two instances, I cannot recall any cases wherein the use of sulfanilamide prevented the necessity of surgical intervention, and I am a bit skeptical about the actual therapeutic value in these two cases. The administration of the drug did have a definite psychologic value for all concerned and this was sufficient to encourage the people in charge to accept the consultant's decision that operative intervention could be delayed with safety. The storm subsided within 48 hours. The patient recovered without being subjected to surgery and the drug was given full credit. These two patients may have fit into the classification of osteothrombo-phlebitic mastoiditis. Both had had a paracentesis and on the following three successive days had had marked temperature rises and sensations suggestive of a chill. Without the benefit of sulfanilamide, they may have continued on their septic course until surgery was essential, yet one cannot dismiss from one's mind numerous instances in the past wherein a similar picture was presented and delay of 24 to 48 hours gave the patient a

chance to control the infection and obviate surgical intervention.

My main criticism of the use of the drug in cases of otitis media of two to four weeks' duration is that it can and does mask the true picture and has delayed operation from one to eight weeks. Fortunately the drug does not diminish the sagging of the posterior superior canal wall nor greatly change the amount or character of the discharge from the ear even though it does cause a definite flattening out of the temperature curve, a definite diminution in sensibility to pain on pressure over the involved mastoid and at times a reduction of the white blood corpuscles so that they more nearly approach the average normal. An examination of the temperature charts of these patients shows that the administration of the drug resulted in a rapid fall in temperature close to or even slightly below the accepted normal line and that the daily curves had a small amplitude of 1-1½° F or ½-¾° C. If after 10 to 14 days the drug was withheld there was a marked rise within 24 hours. Re-establishment of the medication brought about a return to the former flattened curve. In one instance, this procedure had to be repeated four times over a period of eight weeks before all the interested parties were sufficiently convinced that surgery was inevitable.

I have discussed with a member of the Pharmacology Department who is working with sulfanilamide and its combinations, the possibility of the drug having any analgesic property. He assured me that none had been ascribed to the drug but said that its chemical structure was such that with minor readjustment of the integral parts, it would take on the form characteristic of our coal tar derivatives so well known for their analgesic action. This fits



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## SILVER JUBILEE

Twenty-five years of service to the entire medical profession of the Southwest will be signalized when the Southwestern Medical Association meets in El Paso, November 9-10-11.

A quarter-century ago there wasn't much known about insulin, or liver for pernicious anemia, or pneumothorax therapy of tuberculosis, or vaccines for typhoid, or antitoxin for diphtheria, or corneal transplants, or blood transfusion, or brain surgery. The Southwestern physician was isolated from the centers of medical knowledge. Serving on the outposts as he did, he often had occasion to deplore his isolation. Realization of the desperate need for scientific organization began to crystallize, and after long discussion and planning among a small group there was founded in 1914 the Southwest Medical and Surgical Association. The inaugural session was held in El Paso, December 10-12, 1914. Dr. R. L. Ramey was the first president; Dr. W. L. Brown, 1st vice president; Dr. J. R. Gilbert of Alamogordo, 2nd vice president; Dr. C. P. Brown, secretary and treasurer. Trustees were Dr. F. E. Shine of Bisbee, Dr. J. G. Holmes of Alamogordo, Dr. M. G. Paden of Carrizozo. Dr. Felix Miller of El Paso was a member of the Entertainment Committee. Dr. Jas. Vance of El Paso headed the Program Committee. Dr. R. E. McBride of Las Cruces spoke on "Pellagra in the Rio Grande Valley", and reported three cases. Dr. John Bacon of Miami read a paper on "Spinal Anesthesia". Dr. W. W. Waite of

El Paso demonstrated pathological specimens. Dr. L. S. Peters of Albuquerque (past president of the Association) spoke on phases of tuberculosis. The policy of utilizing local members as guest speakers prevailed for many years. Under the administration of President Jas. J. Gorman of El Paso, the present usage of out-of-territory teachers was brought to fruition. An interesting early program note says, "There will be automobiles at the station to meet all incoming trains and carry members and guests to headquarters. Look out for them."

Just a few years ago the name of the society was changed to Southwestern Medical Association, and a renewed determination was made to further develop the clinical conference type of program for the annual sessions. Many of the famed leaders and teachers in American medicine have been presented by the Association. In this way there has been exerted a positive force for the dissemination of new medical knowledge throughout the Southwest.

Soon to be announced is the list of topics and speakers for the 1939 session. Every effort is being made by the Program Committee, headed by Dr. Joseph Greer of Phoenix, to schedule a program vividly demonstrating the progress of the past twenty-five years. Special efforts are being made to round up the older members of the Association. Due honors are being planned for the pioneers. It is hoped that the Silver Jubilee of the society will gloriously punctuate a useful quarter-century of service. Members should reserve the dates of November 9-10-11 for attendance and participation in the significant anniversary of one of the most valuable institutions of their Southwest.

## PHYSICIAN'S POLITICS

The impression is abroad that organized medicine has joined hands with a major political party in its natural battle of attempting to oust the one presently in power nationally, and, in many places, locally. Nothing could be more false than that baseless assumption. Organized medicine is composed of individuals possessing the American right to dissent and even raise hell with the concepts of any political party in power. As individuals in the political scene of this nation, physicians are not one whit more endowed with the power to prescribe for society's ills than are other men not possessed of an M.D. degree. It is definitely not the province of any scientific organization to take sides in political arguments between parties seeking the power of public office. One of the reasons that organized medicine enjoys the proud prestige it now does is simply that it has wisely refrained from mating with any political party. One reason why certain business elements in this land now occupy low places in the public's esteem is that these elements have horned in on political affairs, and thereby had mud splattered on their togas.

Recently the fool proposal was made that the physicians of America should, as a group, affiliate themselves with a certain political party. That nutty notion was hustled out of their front pews in a trice. What a grand spectacle it would be to see the windy orations of the politicians blazoned on the scientific pages of our journals! The American Medical Association heard enough gibberish a few years ago at Atlantic City when a United States Senator rambled unsteadily and pointlessly on and on before the House of Delegates. Any physician who cares to waste an hour or so might try reading certain portions of the Congressional Record. If, after this insulting experience to his mentality, he is still enamored of politics as it is played, let him cast about windily and bellow aberrant ideas, and soon he'll be hailed as a new beardless Moses by the brethren down at precinct headquarters. But let him leave his medical society out of it. There are too many sick people needing our best brains to allow our dallying in the devious bypaths of vote-snaring.

True enough, many American physicians do not agree, singly or collectively, with some of the buffoonery now on the stage at Washington. That, praise Jehovah, is the birth-right of all of us, ditchers or doctors. But let no recruiting sergeant for any political party try to weld those individual opinions into a mass movement of organized medicine as a whole. He would, by his failure, be transferred to the street-cleaning department in an outlying precinct, far from the lush down-town beat.

### HOPE FOR THE DEAF

Otosclerosis has long presented a difficult problem to the aurist. Many measures of relief have been investigated and usually discarded as possessing too little promise of permanent mitigation of the symptoms of the disease.

There would appear to be reason to build hope on the results now established by Lempert of New York. He has devised a modification of a surgical procedure which essentially short circuits the sound waves around the middle ear directly to a fistula in the horizontal semi-circular canal<sup>1</sup>. The procedure is highly tedious and technical, and as such could possess little merit in the hands of any save the expert. Out of 59 cases operated, Lempert has succeeded in producing permanent fistulae in all but 9<sup>2</sup>. Most of these cases showed marked improvement in hearing, demonstrable with the electric audiometer.

As the case series increases in the service of Lempert and others, more can be definitely stated as to the permanency of the relief to be obtained from the operation. To date it would appear as if great progress had been made in bringing hope to a certain classification of deafness.

<sup>1</sup> Lempert, Julius: Improvement of Hearing in cases of Otosclerosis, *Arch. Oto.* 58:42 (July) 1938.

<sup>2</sup> Babbitt, Jas. A.: A Study of Medical and Surgical Aids to Hearing, *S. G. O.* 68:395 (Feb. 15) 1939.

### EXPLANATORY NOTE

An ox came down to a reedy pool to drink. As he splashed heavily into the water, he crushed a young frog into the mud. The old frog soon missed the little one and asked his brothers and sisters what had become of him.

"A great big monster," said one of them, "stepped on little brother with one of his huge feet!"

"Big, was he!" said the old frog, puffing himself up. "Was he as big as this?"

"Oh, much bigger!" they cried. The frog puffed up still more.

"He could not have been bigger than this," he said. But the little frogs all declared that the monster was much, much bigger, and the old frog kept puffing himself out more and more until all at once he burst!!

That recent loud bang in the District of Columbia was the blowing up of Dear Thurman's suit against the American medical trust. Remember all the puffing just prior?

### PRICE OF VIGILANCE

When the guards are at play with the pretty kitchen wenches in the court-yard the enemy pikemen are most apt to scale the walls and slit a number of gullets within the strong-hold.

Just so when medical vigilance is relaxed regarding such public health measures as compulsory vaccination against smallpox. For some time proud spokesmen have pointed out that smallpox was fast becoming a little known, little seen disease. That desirable state of extinction of one of the most terrible scourges of mankind was certainly once rapidly approaching realization. But here and there the guards dallied, lawmakers were misled by the clamor of various loud cults and quackeries, both of performance and mental processes, and laws requiring compulsory vaccination were killed in passage or repealed. So once again the warnings are at hand of possible dreadful epidemics to come.

Since 1931 not a single case of smallpox has been reported in New Jersey. That state enforces a compulsory vaccination law. No disfiguring, deadly epidemic of the scourge of the Middle Ages can gain foothold there. During the past 7 years some 13,000 cases of smallpox have been reported in certain of the Northern and far Western states whose combined population is about equal to that of New Jersey's. The New England states are practically completely free of smallpox, due to compulsory vaccination laws.

Let medical men everywhere remain eternally vigilant when the cults and quacks in the guise of pretty kitchen wenches begin to tempt those on the ramparts. Let not a medieval pandemic be charged to the dallying of the physicians of this land.



## *Special Section* Arizona State Medical Association

PRESTON T. BROWN, M. D., *Associate Editor*  
403 Professional Bldg., Phoenix, Arizona

### COMMITTEE ON SCIENTIFIC ASSEMBLY MEETS AT TUCSON

The Committee on Scientific Assembly met at Tucson, Sunday, July 30th and laid preliminary plans for the Scientific Program for the Annual Meeting to be held at Tucson next April, the Pima County Medical Society to determine the specific dates. There was a full attendance of the Committee including: Dr. D. F. Harbridge, Chairman by virtue of office of President-Elect; Dr. W. L. Minear of Patagonia; Dr. Frank J. Milloy of Phoenix, and Drs. Chas. S. Kibler and Dan L. Mahoney of Tucson. Dr. Dan L. Mahoney was named secretary to the Committee.

It was voted to include nine local and seven guest speakers for the meeting, including a representative from the American Medical Association to address the House of Delegates in open session. It was also voted to continue the Scientific Breakfasts and Round-Table luncheons which have proved popular with the membership.

Guest speakers to be invited will include specialists in Pediatrics; OALR; Gynecology; Internal Medicine; and Surgery. The Pediatrician will be supplied through the Division of Maternal and Child Health of the State Department of Health, the Association Committee on Maternal and Child Health making the selection of the speaker. While the guest speakers were tentatively selected, their names may not be revealed until acceptances have been received.

Local papers will be solicited from the county medical societies, the committee to make selection of speakers from the topics submitted for choice. It is desired that there be a state-wide representation of local papers. Dr. W. L. Minear of the Committee was placed in charge of this phase of the program and will dispatch letters to the county societies at an early date relative to submission of papers for selection by the Committee.

An innovation for the Program will be a symposium of three papers by local speakers with the concluding paper or discussion to be by a guest speaker. The subject for the symposium will be announced later when guest speakers are secured.

The Committee will convene again early in the fall when replies from guest speakers and the county medical societies have been received.

### ? QUESTIONS ?

Just to see whether the idea will catch on and hit the spot, professionally speaking, we are printing here three questions on which to sharpen your

wits and furnish the readers some interesting diversion and good advice. If the questions do "catch", we shall repeat the idea now and then. The September issue will publish the best three answers to the questions asked here signed with your name, initials, nome-de-plume, or unsigned as you wish. By the way, a good question or two will be in order as well as replies to the questions. So, either questions or answers, your participation will be welcomed.

**QUESTION 1**—How much should the physician tell the patient as to his true condition? (Give us a gem of medical thought here in 25 words.)

**QUESTION 2**—What role should the physician's wife play in relation to his medical practice or through the Auxiliary? (Would your wife like to reply to this? Okay, if she can make it in 50 words.)

**QUESTION 3**—What is the most humorous experience in your medical practice? (And, doctor, I DO mean humorous.)

### PROFESSIONAL NEWS

The Apache County Medical Society has selected the following list of officers for the current year: President, Dr. T. J. Bouldin, St. Johns; Vice-President, Dr. Kenneth Herbst, McNary; Secy.-Treas., Dr. G. C. Lewis, St. Johns. Dr. William F. Orlando, graduate in medicine from the University of Southern California, 1936, has located at Springerville and has been inducted to membership in the same Society.

Dr. Hilton J. McKeown of Phoenix, while in attendance at the Annual Session of the American Medical Association at St. Louis was certified by the American Board of Internal Medicine.

Dr. Jack Hild of Douglas, a member of the Cochise County Medical Society, is now in the East for a year's graduate work in Pediatrics.

Dr. Normal D. Hall, Phoenix, Arizona, was the guest speaker of the June meeting of the Los Angeles Cancer Society. Dr. Hall spoke on "Carcinoma of the Cervix in the First Three Decades of Life", giving statistics on fifty-seven cases proven by microscopic examination.

### VENEREAL DISEASE CONTROL

DR. THOMAS BATE, Phoenix, Ariz.

Venereal Dept., Maricopa County Health Unit.

Realizing that a serious menace to the public health of the community existed in the form of untreated venereal disease among the indigents in

this area, the Maricopa County Health Unit organized the venereal control unit on October 19, 1937. The aims of this clinic are, to control the spread of infection of venereal disease, and to stop the advance of the disease when the period of infectiousness has passed.

The clinic is housed in the County building, located at Twelfth and Van Buren streets. The personnel consists of two physicians, two registered nurses and a clerk. The clinic is open four nights a week, from Tuesday through Friday.

The patients are all indigents and originate from several sources. They are admitted to the venereal clinic from the various branches of the county services, from the W. P. A. agencies, and from the city services such as the food handlers. Many of them are sent to the clinic from the local physicians. In this area there are a great many migratory agriculture workers. These people are not cared for by their agencies, but are sent to the venereal clinic. A few of the patients have come to the clinic by themselves requesting diagnostic procedures or therapy.

All types of venereal disease are treated at the clinic. Since the organization of the clinic up to January first, 1939, 1000 cases of syphilis were seen and treated. Of this number 191 were classed as acutely infectious. That is, they either had the open primary lesion or showed infectious secondary lesions, 803 of the syphilitic patients were classed as latent or non-infective syphilis. Contrary to popular opinion, this clinic, encountered far less gonorrhea than syphilis. Between October, 1937, and January, 1939, 375 patients were treated for gonorrhea. It might be said here, that there were a few more actual cases encountered, but they were reinfections in patients who had been treated previously at this clinic. In the course of the treatment 10 cases of vulvovaginitis of gonorrheal origin in young females were encountered. During the fifteen months of operation only two chancroids and no cases of granuloma inguinale were encountered. A great many cases were referred to the clinic for treatment with an admitting diagnosis of chancroid and granuloma inguinale. In the course of the examination which consists of routine blood serological examination, dark-field examination on open lesion and the various antigenic skin tests when indicated, it was found that the bulk of the cases were primary chancres. As a result of observations it is rather a standing rule that any lesion of the mucous membranes and adjacent parts is a syphilitic lesion until definitely proven otherwise.

In the treatment of the cases of syphilis, the Maricopa County venereal clinic holds to the standard of heavy metals and the use of neoarsphenamine. The treatment of infectious cases is a little different here than that employed at other clinics. Knowing that a great many of the cases are migratory and many of them not too cooperative, a scheme has been devised of attempting to render

them non-infectious as soon as possible, the acute cases are given 10 bi-weekly injections of neoarsphenamine, then one weekly injection alternating with one weekly injection of bismuth subsalicylate until the patient has had fifteen injections of neoarsphenamine in the space of 10 weeks. The patient then has five bi-weekly injections of bismuth and then starts his second course of neo. This is a large amount of neoarsphenamine, but we have seen only two cases of arsenical dermatitis and both of these were in patients with latent syphilis and had had arsenical reactions in the past. From the recent work being carried out in New York and in Detroit it would seem to point that the cure for syphilis lies in early massive doses. Reports from both of these places have shown encouraging results with the use of continuous drip, massive doses of neoarsphenamine.

The patients who are classed as latent syphilitics receive the routine as suggested by Stokes, O'Leary and other authorities which consists of alternating courses of an arsenical and a heavy metal with rest periods spaced according to the age and condition of the patient.

The treatment of gonorrhea at this clinic consists of the use of adequate dosages of sulphanilamide and the classical rainbow treatment of urethral irrigations. It has been found necessary to change the color of the irrigating substance in order to keep the patient's cooperation. It is rather interesting to note the scarcity of complications of gonorrhea that have been encountered.

Gonorrheal vulvovaginitis has undergone a few changes in its treatment. Originally potassium permanganate and sulphanilamide were used. Then the estrogenic hormones were added. In the past few months we have failed to see any advantages in the use of the estrogenic substances and had begun to notice some of the undesirable side effects. We no longer use estrogenic hormone in the treatment of vulvovaginitis at the clinic. At the present time we are using an injection of 10% protargol in glycerine, an adequate dose of sulphanilamide until the acute stage is passed. The patient is douched twice daily with a 1 to 5000 solution of permanganate of potash. Results have been more satisfactory with this type of therapy.

We have employed several procedures in attempting to uncover undiagnosed and untreated cases of venereal disease. When the patient presents himself for treatment and diagnosis, he is questioned as to the source of his infection. By the use of a little patience we have been able to learn the source of the infection in practically all the acute cases of venereal disease which we encounter at this clinic. We have found that the cases of syphilis encountered come from three sources. Syphilitic infections arising from professional prostitutes occurred in nearly 10% of the cases. Syphilis coming from an infected marital partner occurred in 4% of the cases, whereas syphilis occurring from the "pickup" or



amateur was responsible for 86% of the cases encountered.

New patients are requested to have their immediate contacts examined by the routine physical examination and by the blood serological examination.

Venereal diseases being infectious, and occupying the unique position of being the only contagious set of diseases in which the patient is turned loose upon the community without any quarantine, it becomes quite a problem to enforce treatment upon these patients. For some reason we have been able to gain a very commendable degree of cooperation from the patients encountered at this clinic. Perhaps this is due to the fact that the nature of the disease and the line of treatment is carefully explained, perhaps it is a result of the vigorous campaign which the Public Health Department has waged along the lines of education. Of course there are some patients who will not come for treatment. If they are classed as non-infective, we make no attempt to force them to be treated, but if they are infectious that is a different problem. If a patient is infective and lives in the city, the clinic notifies the police department and the patient usually shows up for treatment. If the patient lives outside the city limits, the district nurse pays them a call. So far the legality of these methods has not been questioned, so we cannot state their true value, but from a practical point of view they have worked admirably for this clinic.

*EL PASO  
TUMOR CLINIC  
REPORTS*

Tuesday, May 23, 1939  
1:00 p. m.  
El Paso City-County Hospital  
Dr. Leslie M. Smith, presiding

### CASE I

Dr. R. P. Hughes: This child is 11 years old. About a year ago, in April, she had an operation for mastoditis and also an incision on the neck here which was probably an abscess. About three months after the operation she developed this, what is apparently a keloid. As far as the treatment of this case is concerned, when these things are early we do think with radiation is of definite benefit. After they become rather hard and thickened, radiation apparently does not do a good deal of good. The filtered x-ray seems to be better than the unfiltered, and because of the fact that the skin over these keloids is so thin you have to be pretty careful not to give too large a dose. We rather favor the semi-erythema dose of filtered ray. In old keloids it is probably better to radiate first, then excise, and then follow up with radiation, and some men think just radiation following

excision is just as good. I don't know which is the better, but sometimes even under the best of circumstances they fail to respond to any type of treatment. In this case I think it would be well to try some radiation, and if it does not respond, go ahead and excise it, and maybe follow up with a little x-ray, as soon as we get the healing started.

Dr. W. W. Waite: What about leaving it alone? It doesn't hurt anything.

Dr. Hughes: Sometimes these things tend to undergo degeneration, and they have a tendency towards epithelioma.

Dr. D. von Briesen: Do you think operation would be better than radiation?

Dr. Hughes: That depends upon what tendency she may have toward further keloid formation. It is pretty hard to tell with her. The colored race is more prone to keloid formation. I think probably the best result would be obtained by surgery followed by x-ray, but since this keloid is only a year old I think it might respond to a great degree to radiation alone.

Dr. John L. Murphy: In the South I have seen lots of them, but I have never seen one undergo malignant degeneration.

Dr. von Briesen: I have seen them become malignant. I believe that excision followed by radiation would offer more in the way of a cosmetic result. I don't believe radiation alone would accomplish a satisfactory cosmetic result in this case.

Dr. Murphy: I don't think that the one on the mastoid bone should be touched with the knife.

Dr. Hughes: I don't think so either, and it is not of such cosmetic importance either, there. What do you think about trying radiation on the one behind the ear, and if a good result is obtained, using radiation on the other one, too?

Dr. Leslie M. Smith: I think it might be a good idea to give the patient some preoperative radiation and then excise it, and then about two weeks later follow it with a smaller dose.

### CASE II

Dr. von Briesen: This patient had a sore on his tongue for more than a year, and although it did not get well, he didn't think it was very important. He is a heavy smoker. Recently the sore has been getting larger and very painful, and on Feb. 25 of this year he consulted the clinic and was seen by Drs. Smith and Hughes, who referred him to us for radiation and treatment. At that time there was a large infiltrated lesion at the base of the tongue. It was ulcerated and necrotic in its center. It was rather extensive. From the pathology report, diagnosis on which was "carcinoma," it was thought that it was probably highly malignant. There were glands in the left neck which were not adherent and which moved freely.

Chest film taken on Feb. 25, 1939, showed no evidence of metastasis. There was moderate peribronchial fibrosis and some enlargement of the mediastinum.

Hg ..... 66  
Rbc ..... 3,850,000

Wbc ..... 13,000

Differential ..... P-66, S-32, L-2

The Kahn test was negative.

He has already received 5,000 Roentgens through three fields, most of it through two fields—a field 15x15 cm. covering the glands, on this side, and another on the other side, which irradiated all the glands of the tongue, and then another 1,000 posteriorly and to the left, making a total of 5,000 delivered in a triple-cross manner to the lesion. The lesion is becoming considerably smaller, and a lot cleaner, and now is ready for further treatment, which we have planned to be Radon, using nine 3-mil. platinum. These are to be inserted on Friday morning. We would appreciate very much any comment or suggestions as to this man's treatment. So far he has responded very nicely. The glands in his neck are small, hard, fibrous nodes now; we don't know whether they contain any active cells or not. He still has no evidence of metastasis in his chest, and his general condition is very much improved. In fact, he is able to work if he can get some work. (Here all present examined the lesion.) It is seven weeks now since his last radiation. Not the least problem that we had with this man, and which you will always have in radiation around the head and neck, was oral hygiene. It is extremely important, and can be accomplished with rather simple but persistent measures of mouth-washing.

Dr. Smith: I think in these adenocarcinomas there is always an argument as to whether treatment should be surgical or radiation.

Dr. Murphy: Biopsies are always indicated, I think. In the early stages it is hard to tell. I favor x-ray treatment over surgery in tumors of the tongue. We had a case one time that was treated surgically and half the tongue had to be removed.

Dr. L. O. Dutton: We have given a good deal of thought to these things recently in our office, and we are gradually inclining to surgical treatment of lesions of the tongue. In the first place, they metastasize slowly. We do not see many of them with demonstrable metastasis even after a number of months' duration. Palpable glands in the neck do not always mean metastasis, because there is much inflammatory reaction down there, and when we take out the glands by surgical operation they are found not to be malignant. Our own results have been better in cases treated early by surgery. A few of them are probably a little better off with a little x-ray treatment first, and then surgery, but some of them, particularly if they are early, are referred to surgery immediately and followed up with x-ray, and this group of cases has done better than those treated with radiation alone. Most of these lesions of the tongue get along very nicely from a surgical angle with a hemisection, leaving at least half of the tongue, which gives you a pretty well functioning tongue. We have been quite disappointed in Radon implantations.

Dr. Cummins: How extensive surgery do you advise?

Dr. Dutton: I don't know, but most of ours have been hemisections, and taking out a few of the salivary glands and lymph glands.

Dr. Smith: In this case I believe it is so far back that you would not be above to use surgery without taking out the whole tongue.

Dr. von Briesen: Treatment would, of course, depend on location. If the lesion is on the anterior two-thirds of the tongue I think you could use surgery.

Dr. Dutton: I recall a recent case where we thought we could get a good biopsy, but we had considerable difficulty in identifying anything that even suggested malignancy in the biopsy, although clinically it was quite typical. So we resected it anyway and it was malignant.

Dr. von Briesen: It is important to maintain good oral hygiene, and it is well worth while to postpone treatment until any bad teeth have been removed. I would like to say something I omitted before—that Wassermann Kahn and Eagle all are negative on this man.

### CASE III

Dr. Cummins: I think you all saw this patient at the last clinic; I was not present. This woman is 50 years of age; has had nine children, all nursed on the breast. Negative history as far as lues is concerned, and negative Wassermann. She states her mother had a tumor of the breast which went away of its own accord. She gave a history of hitting the breast about five years ago and the first symptom was itching over the nipple, followed by a crust over the nipple which came off and reformed at intervals for a period of three years, at which time a tumor developed, and she consulted a doctor who prescribed a salve, which did her no good. Since that time she had no treatment except the salve. Dr. Rodarte saw her in April of this year and referred her to the hospital. At the time of admittance she had an area of eczema about the nipple and a tumor of the breast about the size of a hen's egg. There was dimpling of the skin over the tumor and the nipple was retracted and eroded. There was an old chronic lesion. No nodules in the skin. Axillary nodes were palpable; none in the apex. Skeleton normal. Lungs normal. No evidence of metastasis. I understand that Clinic went over the case and recommended surgery. I came out and examined her, and there were supraclavicular nodules, very evident, though this was not mentioned in the Clinic report. As far as I was concerned, it was an inoperable case. There was a question of perhaps giving her some relief as far as preventing an ulcerating breast, and also the internes had not had a case of this kind before, so a radical mastectomy was done, but no attempt was made to dissect the glands above the clavicle. We had to take off a lot of skin because the tumor mass was adherent to the skin. You can see here that we have some separation of the line of dissection. We went clear across the midline and even made a few incisions in the skin, which approximated very readily. I am sure there is no chance of cure; in



the first place, the axillary glands were involved. She probably had a 15% chance to live five years with a radical, but probably not as those glands above the clavicle are enlarged. X-ray of the chest did not show any metastasis, but I am sure you all feel this gland above the clavicle. I understand the Clinic wanted a diagnosis on the skin, but this was not sectioned. Do any of you favor x-ray treatment of the supraclavicular glands?

Dr. Murphy: I think these patients are entitled to removal of the breast and of the glands, not in the hope of cure or even to prolong life, but to avoid the ulcerating, foul-smelling, painful lesions which follow.

Dr. Swope: I would like to cite a recent case that I had referred to me on account of a psychic disturbance. A white woman who had been healthy except for carcinoma of the breast had a "cancer-cure" treatment. The physician in charge noted the importance of the cerebral disturbance and I was called in to see her. There was extensive glandular involvement with swelling of the arm. She died within about two weeks, and it was found that she had a metastasis to the brain. One reason why I recommend the removal of a breast like that is because of the danger of metastasis to the brain.

Dr. R. B. Homan, Jr.: You fellows remember that we had Dr. R. W. McNeally of Northwestern down here last year at Southwestern, and his feeling about cancers of the breast briefly is that practically 100% of them will be dead within five years, no matter what is done. He has quit entirely doing radical removal of the breast. He says it is impossible in the first place to remove all the tissues in the axilla, and that no matter how skillful you are there are no better results from a radical removal than from a simple followed by radiation of the axillary and supraclavicular nodes. He says the operative mortality is greater in radical than in simple, and that the patient is much more comfortable for a longer period of time, and that the end results are no better than in simple mastectomy. He follows all his cases with radiation, but he says they all eventually die of cancer. In Memorial Hospital in New York City they also think that simple mastectomy in some cases is justified. They follow all of them by radiation, and most of them receive preoperative radiation. Dr. Burton Lee, who did nothing but breast work there for a good many years, feels that pre- and post-operative radiation are of definite value, more particularly the latter.

Dr. Cummins: I can say personally that in this case there was no justification for anything more than a simple mastectomy. It was done simply because the internes had never had one. Lee uses preoperative x-ray, but there are just as good men who condemn it.

Dr. Murphy: In one of our cases following mastectomy there was a useless, indurated, swollen arm. Would that be due to radiation or surgery?

Dr. von Briesen: Probably due to radiation.

Dr. Cummins: It was a very common thing before

X-ray was used, and was thought to be due to venastasis following removal of the pectoralis major.

Dr. von Briesen: Radiation has a very definite effect on the lymphatics.

## COMMUNICATIONS

Sir:

In addition to the articles enumerated in our letter of June 2, the following have been accepted:

Abbott Laboratories

Sulfanilamide—Abbott, 4 Gm. Ampoules  
(Crystals)

The Denver Oxygen Co.

Carbon Dioxide-Oxygen Mixture

Oxygen-Carbon Dioxide Mixture, Carbon  
Dioxide 5%; Oxygen 95%

Oxygen-Carbon Dioxide Mixture, Carbon  
Dioxide 7%; Oxygen 93%

Oxygen-Carbon Dioxide Mixture, Carbon  
Dioxide 10%; Oxygen 90%

Lederle Laboratories, Inc.

Immune Globulin (Human)—Lederle

Tablets Ascorbic Acid—Lederle, 0.025 Gm.

Wm. S. Merrell Co.

Ampuls Caffeine with Sodium Benzoate, 2 c.c.

Sulfanilamide-Merrell

Sulfanilamide Tablets, 5 grains

Sulfanilamide Tablets, 7½ grains

Winthrop Chemical Co., Inc.

Salyrigan-Theophylline Solution (Winthrop)

Ampoule Solution Salyrigan-Theophylline,  
1 c.c.

Ampoule Solution Salyrigan-Theophylline,  
2 c.c.

Yours sincerely,

Paul Nicholas Leech, Secretary,  
Council on Pharmacy and Chemistry.

## NEWS

### General

The next written examination and review of case histories (Part I) for Group B candidates of the American Board of Obstetrics and Gynecology will be held in various cities of the United States and Canada on Saturday, January 6, 1940, at 2:00 P. M. The Board announces that it will hold only one Group B, Part I, examination this year prior to the final general examination, instead of two as in former years. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June, 1940.

Applications for admission to Group B, Part I, examinations must be on file in the Secretary's office not later than October 4, 1939.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting in Atlantic City, N. J. on June 8, 9, 10, and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York City.

Applications for admission to Group A, Part II examinations must be on file in the Secretary's office not later than March 15, 1940.

After January 1, 1942, there will be only one classification of candidates, and all will be required to take the Part I examinations (written paper and case records) and the Part II examinations (pathological and oral).

At the annual meeting of the Board, held in St. Louis on May 12, 1939, it was found necessary, on account of increased administrative expenses, to increase the application and examination fees. Effective May 12, 1939, these are as follows: Application fee \$15.00, payable upon submissions of application for review by Board; examination fee \$85.00, payable upon notification to candidate of acceptance of the application and assignment to examination. Neither fee is returnable. This increase does not apply to candidates whose applications were filed prior to May 12, 1939.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Announcement has been made by Dr. C. G. Salisbury, Medical Director of Sage Memorial Hospital, of the Fourth Harlow Brooks Memorial Navajo Clinical Conference, August 28, 29, 30, 1939, to be given at the Sage Memorial Hospital, Ganado, Arizona.

The American Congress on Obstetrics and Gynecology announces a comprehensive program in both the Section on Public Health and the Section on Medicine, from September 11-13, Cleveland, Ohio. Registration fee is \$5.00. Complete information and program may be obtained by writing Headquarters Office: The Annex, 650 Rush St., Chicago, Ill. Dr. John Vruwink, Los Angeles, Calif., is Regional Chairman for California, Nevada and Arizona.

### *El Paso*

A regular meeting of the Tumor Clinic was held Tuesday, June 27, 1939, at 1 p. m., at City-County Hospital.

Program: 1. Tumor of arm; 2. Tumor of clavicle; 3. Tumor of breast; 4. Tumor of thyroid; 5. Orbital tumor.

A regular meeting of the Tumor Clinic was held Tuesday, July 11, 1939, at 1 p. m., at City-County Hospital. The program was as follows: Tumor of breast; lipoma of shoulder; angioma; epithelioma of right index finger; tumor of breast.

A special meeting of the Staff of Southwestern General Hospital was held Thursday, July 13, 1939, at the Hospital. Dinner was served. The scientific program which followed was: "Resume of the program of the American Association of Chest Surgeons, California, July 1939", Dr. Felix P. Miller. "Visit to Lahey Clinic, Boston, Mass., and Johns Hopkins Clinic, Baltimore, Md. July, 1939", Dr. J. H. Gambrell.

## AUXILIARY NEWS

### *Bernalillo County*

(New Mexico)

The activities this past year were rather limited. The auxiliary members did, however, fill Christmas stockings for the Christina Kent Day Nursery, and they gave \$30.00 to the milk fund for under-nourished children. Also Hygeia was supplied to the Public Schools all during the year.

At the May meeting, new officers were elected for the following year as follows:

President—Mrs. M. K. Wylder

Vice-President—Mrs. L. F. Elliott

Secretary—Mrs. Bert Kempers

Treasurer—Mrs. Paul Rice

Corresponding Secretary—Mrs. C. Keith Barnes

Publicity—Mrs. E. E. Royer

Meetings of the auxiliary are not being held during the summer months, but will be resumed in September.

HELENE MYERS,

Corresponding Secretary,  
Bernalillo County Medical Auxiliary.

## MISCELLANY

### STENOSIS OF THE ESOPHAGUS DUE TO LYE BURN, INTENTIONALLY INDUCED

Cicatricial stenosis of the esophagus is a common finding in endoscopic practice. The great majority of patients give a history of having swallowed lye or some similar corrosive substance, accidentally, during infancy or youth. The degree of stenosis varies greatly, depending upon many factors such as the amount of substance swallowed and the nature of the subsequent treatment. In some cases the contraction may be very marked, and the symptoms of dysphagia may be so severe as to call for vigorous, though cautious treatment.

The present instance involves the uncommon experience of being called upon to remove a foreign body from the esophagus of a woman who was fed lye as a child for the express purpose of making her unable to eat as much as other children. On the night of July 24, 1937, the writer was called to



see M. J., aged 74, who had been gagging and choking violently for several hours. She stated that she had eaten cake at dinner and that she had choked upon a piece of nut from the top of the cake. She indicated that the piece was very small, and this immediately raised the suspicion that something might be wrong with the esophagus or the trachea. Inquiry as to the reason why so small a foreign body could cause such an obstruction, and pointed questioning regarding a possible history of the ingestion of lye brought forth the admission that she had swallowed lye when four years of age. It was fortunate that this history was obtained before beginning the endoscopy because it gave warning to proceed with caution.

The trachea, larynx and hypopharynx were negative. Just below the pharyngeal opening of the esophagus, at the cricoid constriction, there was found a mass of scar tissue so great and so dense as to obliterate the lumen of the esophagus completely except for a tiny aperture not more than 3 millimeters in diameter near the anterior wall and somewhat to the left. At this point there seemed to be a small, brown particle which was removed and found to be a tiny piece of nut about 3 millimeters in diameter. No dilator small enough was at hand so dilatation of the stricture was not possible at the time. This patient had purposely been given an ether anesthetic because it was desired to relax any spasm which might be present. The next day she stated that although her pharynx was a little uncomfortable, she was able to swallow better than she had been for several months. Evidently the obstructing particle had been removed and the spasm was relaxed.

The patient stated that when she was a few months old, her father, who had been the captain of a sailing vessel, was drowned at sea. A short time later her mother also died and she was adopted by a family in which there were already seven children. When she was four years old, an itinerant saleswoman, carrying various household articles, came to their house and suggested to her foster-mother that she put some lye into the child's food in order to produce a stricture in the food passage so that the child would not eat so much. This was done. The child suffered for a long time. Finally when the patient was eight years old, that is, four years later, her foster-mother confessed to the little girl what she had done.

It is remarkable to reflect that this patient was able to live 70 years with an esophagus which was so constricted. Even if we assume that the stricture became much more marked during her later years, still it is certain that the stenosis was marked from the beginning. Her ability to exist with such an obstruction is explained only by the fact that she always chewed her food so thoroughly that it was practically in a fluid state when it passed through the constriction. When seen by the writer she was very emaciated, and although she recovered from the esophagoscopy without any trouble, the long-

standing emaciation, weakness, and exhaustion, combined with a variety of other conditions (extreme anemia, etc.) caused her to become so weak that several weeks later she died.

She had been married some 50 years, and had borne three children. Two of these are still living and state that she had always been an active woman.—*Journal-Lancet*.

#### PELLAGRA

1. Nicotinic acid has been proven to be a specific for the skin, mucous membrane and mental symptoms of pellagra.

2. The exact mechanism of the action of the drug is not yet fully understood. There is evidently some endogenous substance contained in the stomach that must be present before the acid can be effective in correcting the disease.

3. The dose is variable. But 500 mgs. orally or 200 mgs. intravenously daily has been found to be adequate.

4. It cannot take the place of an adequate diet. In this connection I would like to take exception to a plan of prevention I have heard mentioned once or twice. It has been said that the disease might be prevented by issuing to charity cases and people of very low income a supply of nicotinic acid to be taken regularly. To me this appears absurd, because pellagra is not due to the deficiency of nicotinic acid alone. If the disease is to be prevented it is going to have to come from the education of the public to the fact that it only appears where there is a prolonged dietary deficiency. After the development of the disease the drug is strongly indicated and will bring about a cure much more quickly than any form of treatment formerly used although it can hardly be called the ideal method of prevention.

5. To remain free from symptoms after an apparent cure the diet must be watched and an adequate intake assured.

6. Pellagra is a disease of what we do not eat. Until the public is educated to this fact we will have to continue to treat it.—*Jo. Ark. Med. Soc.*

#### ALCOHOL AND ROAD ACCIDENTS

It seems self evident that all sane persons, regardless of their personal views on the use of liquor, should be greatly interested in making our highways much safer than they now are for themselves, the members of their family and the public generally. If drunken driving can be stopped or materially lessened it will increase highway safety. Anything that will assist in effective prosecution of drunken drivers is a move in the right direction. There is every indication that the use of blood and urine tests for alcohol is extremely useful in drunken driving cases. This evidence has been received in the courts of this state only during the past two years; but that has been time enough to demonstrate the wisdom of using this evidence. No technical rules of law should long stand in the way of its admissibility. I believe the evidence is proper

and legitimate under the law as it now exists. I believe the Supreme Court of our state will so hold. If courts hold otherwise and exclude this important blood test evidence, legislation should promptly be sought to remedy such a situation to the end that courts and juries may have the benefit of this evidence.—J. Iowa St. Med. Soc.

#### WHY PEOPLE GO TO CULTISTS

How does this conflict between rational, scientific thinking and primitive, magical thinking affect the situation of choice of cult or physician by a sick person who wants to get well? Every sick or ailing person becomes more childish and tends to rely more on his supposedly forsaken magical beliefs and wishes the more sick he becomes. As a child he felt that his parents were omnipotent. He sought love and security and a feeling of well-being from them. Perhaps they even increased his belief in their magical omnipotence by telling him they would kiss his wound and it wouldn't hurt any more, or by providing the reassurance of their caresses and embraces which made him feel better when he was in pain, even though the pain was not actually lessened thereby. If they couldn't institute measures to relieve him they assured him that the doctor they called in would make him feel better; and they had great difficulty in getting him to understand and accept the idea that the doctor might have to hurt him or carry out some frightening procedure to make him feel better. And so, as an adult, when he becomes ill, he experiences a revival of these childish beliefs in magic or of childish fears in the face of which his adult, mature thinking may be temporarily abandoned. He is ripe for the promise of cure of a special patent medicine or of a cultist who speaks reassuringly and authoritatively. Since a considerable proportion of the population remains at the level of ignorant, childish, magical thinking, it is not difficult to see that there will be an enormous response to magical medicines, magical procedures and convincingly spoken reassurances of cure.—Jo. Kansas Med. Soc.

#### TUBERCULOSIS AND TONSILS

Sixty-one individuals from whom tuberculous tonsils or adenoids had been removed in the years between 1912 and 1920 were investigated in 1935 at the Johns Hopkins Hospital. Of the 45 who were less than 14 years of age when the operation took place but one had died from tuberculosis and 42 were alive and well. Of 16 cases who were past the age of 14 more than half had suffered from pulmonary tuberculosis of the adult type. Incomplete examinations at the time of operation made it impossible to determine in how many cases the disease was already present in this older group. What did seem apparent was that after removal of the tuberculous focus, the children under 14 rarely showed progressive tuberculosis of the adult type.—Bull. Johns Hopkins Hosp.

#### SULFANILAMIDE THERAPY IN MASTOIDITIS.

(Continued from page 265)

in perfectly with the clinical picture of three of the patients who had had the drug and had ultimately required the advantages of surgery. I have purposefully selected these three because their mental make-up lacked any and all of those qualities associated with the stoic. Their reaction to pain of any sort was of an extreme nature and not one of them had any logical reason to hide any response to stimuli by the mental hazard that if they did show pain they would have to go to surgery. It was amazing to find that the cortex in one instance was eroded and in the other two extremely thin. The mastoid areas were filled with pus under such pressure that as soon as an escape was afforded the pus welled up into the wound. Yet these patients had elicited no signs of discomfort, let alone pain when within the hour firm pressure had been exerted over these self same areas.

The pathology as found at the time of operation is of interest. In all cases it seemed as though there was definite effort on the part of the host to bring about repair. In each case there was abundant very firm granulation tissue, a varying amount of frank pus and areas of good looking bone and relatively normal appearing cells interspersed in or closely adjacent to markedly necrotic areas. The picture was not characteristic of that usually found in the average coalescent mastoid infection of 4 to 8 weeks' duration. In all instances the cultures were positive for the hemolytic streptococcus.

Time does not permit one to suggest discussing other interesting clinical phases such as the relatively slow healing following operation, the cases wherein the hemoglobin dropped from 84% to 39% within one week and the peculiar psychic reaction sustained by some of the patients following even very small doses of the drug. Nor is it of any point to attempt to discuss the various theories as to how the drug acts or what milligrams per cent should be maintained or why it should render such excellent results in meningitis of otitic origin and apparently be of such little aid in combating pathology in the mastoid cavity. I do wish to leave the thought that sulfanilamide can and does mask at least part of the clinical picture of mastoiditis.

490 Post Street.

#### BOOK NOTES

THE BACTERIOLOGY OF TYPHOID, SALMONELLA, AND DYSENTERY INFECTIONS AND CARRIER STATES: Leon C. Havens, M. D., Director of Laboratories, Alabama Department of Public Health. Edited by Kenneth F. Maxcy, M. D. Foreword by Wilson G. Smillie, M. D., New York. The Commonwealth Fund, London; Humphrey Milford, Oxford University Press. 1935.

This is a small volume of 158 pages packed with information which every practitioner should know



about and which is known to relatively few. Especially should all laboratory workers have this volume. How to definitely diagnose disease due to typhoid, paratyphoid and other members of the Salmonella group and dysentery bacilli is here told in detail. The author makes the following significant statement: "The day has passed when agglutination tests with the patient's serum can be accepted as diagnostic evidence. The extent to which clinicians still rely upon these simple procedures is regrettable". I have had experiences which make me realize that there is much extremely important and suggestive information within these covers—to laboratorians as well as to clinicians.—O. H. B.

**HEALTH OFFICERS' MANUAL:** By J. C. Geiger, M. D., Dr. P. H., Sc. D., LL. D., Director, Department of Public Health, City and County of San Francisco, California. 148 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1939. Cloth, \$1.50 net.

Dr. Geiger, director of the Department of Public Health of the City and County of San Francisco, California, presents a very excellent, small, and concise manual on general information regarding administrative and technical problems of a health officer. It is well divided into chapters. The organization is well stressed.

The duties of the health officer not only in relationship to his office and actual statistics and records, but also in relationship to the community and

in the prevention of endemic and epidemic diseases, is very nicely, but briefly, considered.

There is an excellent group of diagrams and charts showing the Epidemiology of such infections as Brucella, Plague, Leptospirosis, Relapsing Fever, Rickettsia, and Psittacosis. These diagrams and charts are among the most interesting part of the book, because they present in such a concise form the outstanding features of these various infections.

In the final chapter on Inspection and Control, his interpretation of laboratory reports is an excellent criterion of good common sense where the sanitation of an establishment by inspection is worth all the laboratory work in the world.

In all it is a book that the young health officer would not likely want to be without and that even physicians and medical officers on duty will find of much value.—J. M. R.

**A TEXTBOOK OF SURGERY:** By AMERICAN AUTHORS. Edited by Frederick Christopher, B. S., M. D., F.A.C.S., Associate Professor of Surgery at Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. Second edition, revised. 1695 pages with 1381 illustrations on 752 figures. Philadelphia and London: W. B. Saunders Company. 1939. Cloth, \$10.00 net.

Since publication of the first edition in 1936, Christopher's Textbook of Surgery has been recognized as unexcelled in the one-volume class. This second edition, revised to include latest ideas in surgical treatment, maintains that reputation. With a list of 185 eminent contributors, the 1650-page

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volume is a compilation of surgical teaching by recognized leaders in various branches of surgery.

Divided into 40 chapters, it begins with Inflammation and Bacteriology, ends with Pre-operative and Post-operative Care. The chapter on Wounds presents interesting reading for any surgeon. Emphasis on cleansing of traumatic wounds as opposed to the popular treatment with antiseptics, is noteworthy.

The Endocrine System is allotted only 34 pages, but included is a thorough discussion of diseases of the thyroid gland. In 177 pages the principles of treatment of fractures are well presented, but treatment of specific fractures is considered hardly in sufficient detail for the surgeon who treats fractures.

The Breast receives 51 pages, concise and well-illustrated. Gynecology is treated in 72 pages, surprisingly comprehensive in presenting common ailments of the female generative organs. The chapter on Appendicitis should be memorized by every medical student, reread every year by every practicing physician and every surgeon.

The second edition includes a new chapter on Cancer of the Lip and Tongue. Also new are sections on congenital obstruction of the bile ducts, duplication of the alimentary tract, tetanus (with conservative opinion as to active immunization), lymphogranuloma inguinale, and some ano-rectal diseases. The various uses of sulfanilamide are discussed by twelve authors. Protruded and injured intervertebral disks are described. Among the newer operations mentioned are excision of the fractured patella, the Whipple operation for carcinoma of the head of the pancreas, and the Henry midline extra-peritoneal technique for femoral hernia.

New observations are included on the surgical treatment of actinomycosis, transportation of the patient with a spinal injury, surgical treatment of ulcerative colitis, the value of vitamin K to the jaundiced patient, the significance of urinary prolan in cases of testicular tumor, and the use of mandelic acid as a urinary antiseptic.

As expressed in the preface to the first edition, this textbook was designed "to give the student a concise presentation of surgery which is characterized by the maximum authority." This it has accomplished. For ready reference as to diagnosis and latest accepted treatment, the book will prove exceedingly valuable to the general surgeon.—J.L.G.

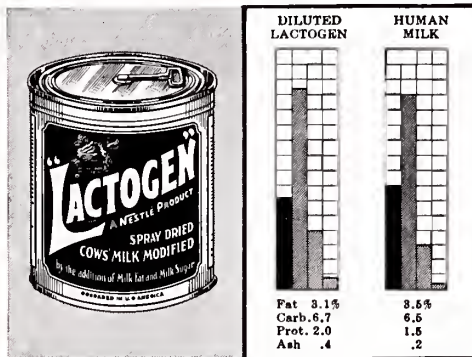
CANNED FOOD REFERENCE MANUAL. American Can Company. N. Y. Pp. 242. Illustrations 41. Fabrikoid. 1939.

This small volume is published for the information of the medical profession. It contains chapters on Food Canning Technology, Public Health Aspects of Canned Foods, Canned Foods in Nutrition, and Useful Facts About Commercially Canned Food. There is a valuable section on The New Federal Food, Drug and Cosmetic Act.

The interesting statement is made that "Available records show that no case of proven botulism

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attributable to a domestic commercially canned food has occurred in America since 1925." One recalls in this connection the unfortunate outbreak of botulism from home canned foods that occurred in New Mexico last year.

This book is crammed with interesting facts regarding foods, including tables of caloric values and rather complete lists of the various vitamins containing foods. Hundreds of citations throughout the book testify to the careful labor involved in its preparation. The manual will be sent any physician gratis upon application to the American Can Company. It is a worthwhile piece of work and is heartily recommended.—M. P. S.

**MEDICOLEGAL PHASES OF OCCUPATIONAL DISEASES:** By C. O. Sappington, M. D., Dr. P. H. An Outline of Theory and Practice—presenting, in handbook form, the Industrial, Insurance, Medical, and Legal inter-relations of all the elements of Occupational Diseases, from Origins and Causes, to Disabilities and Costs. 400 pages; 5¼ x 7¾; bound in cloth (or semi-flexible, as preferred). Price \$2.75 (cloth). Published, 1939, by Industrial Health Book Company, 540 North Michigan Ave., Chicago, Illinois.

There are four principal divisions of the content of this book, viz.: Industrial, Insurance, Medical, and Legal. The necessity of cooperation between the business executive, the insurance carrier, the industrial physician and the lawyer is well exemplified in the text. There are abstracts of state laws and legal decisions as well as suggestions from the American Bar Association and the American Health Association. There are a number of well chosen tables which aid in understanding points as they are made.

There is more and more industrial work being done by physicians today. The complexities of this type of practice are such that some sort of guide is necessary in the intelligent handling of industrial medicine problems. This book may well be considered an excellent guide.—M. P. S.

**PROBLEMS IN PRISON PSYCHIATRY.** J. G. Wilson, M. D., Senior Surgeon (Retired) United States Public Health Service Director, Division of Hospitals and Mental Hygiene, Department of Welfare of the State of Kentucky; and M. J. Pescor, M. D., Clinical Director, United States Public Health Service Hospital, Fort Worth, Texas. Pp. 275, including appendix. Fabrikoid. \$3.00. The Caxton Printers, Ltd., Caldwell, Idaho. 1939.

In but few locations does the whack of the keeper's billy and the crack of the warden's cat-o'-nine yet disturb the public peace. Residents of modern hoose-gows are now more likely to be treated as guests of a benevolent State rather than as wards of the Devil. Sometimes the loving care lavished upon the public's undesirables leads to strange and wondrous machinations. Just a short piece past the lads of a modern state pen rose up in grievous wrath in protest over the edict that pink silk undies were taboo for them. Sad days, when the monstrous meanness of the keepers must forbid such necessities to a poor devil yearning for life's goodies! The writer is aware of the possible retort here—that "anything can happen in Kansas"—but that amusing aberration aside, there still lives the idea among many men that too damned much coddling is flourishing in prisons as a whole! It is not at all difficult to agree, however, that there should be a better segregation procedure of housing the various

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- ☐ Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245—"Pharmacology of Inflammation: III. Influence of Hygroscopic Agents on Irritation From Cigarette Smoke."
- ☐ N. Y. State Jour. Med. 1935, 35-No. 11,590—"Irritating Properties of Cigarette Smoke as Influenced by Hygroscopic Agents."
- ☐ Laryngoscope, 1935, XLV, No. 2, 149-154—"Some Clinical Observations on the Influence of Certain Hygroscopic Agents in Cigarettes."
- ☐ Laryngoscope, 1937, XLVII, 58-60—"Further Clinical Observations on the Influence of Hygroscopic Agents in Cigarettes."

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types of criminals together according to their classification. With the amazing complexity of modern law it remains remarkable that more of us aren't caught and penned up for varying intervals. So that, but for the prodigious labors of the sainted lawyers, who make all our laws, many convicts are far from being anti-social in a true criminal connotation. Sometimes, in a musing mood, many dally with the notion that apparently the haloed shysters of the land have an aim to incarcerate everyone save themselves. Directly the conviction assumes form that the converse of that state of affairs would of a certainty bring about the true millenium on this restive globe. The by-paths here must, alas, be left for the morrow's exploration, despite the fascinating scents and rustles up-wind.

The book now under surveillance is authored by a pair of physicians who seem to know what they are talking about. It makes devilishly interesting reading, the exposition of some of the problems of latter-day penology and the coping therewith. More good citizens and fewer lawyers ought to spend more hours in the study of what and how to do with society's plagues. This book should, therefore, be read by everyone who can proudly count above ten.—M. P. S.

**LIFE AND LETTERS OF DR. WILLIAM BEAUMONT.** A New Print. By Jesse S. Meyer, A. B., M. D., Late Associate in Medicine in Washington University, St. Louis. With an Introduction by Sir William Osler, Bt., M. D., F. R. S., Late Regius Professor of Medicine in Oxford University, England. 327 pp., \$5.00. The C. V. Mosby Company, St. Louis, 1939.

This book is a highly entertaining account of the adventures of a frontier Army surgeon in the realm of experimenting and thinking. It is remarkable how accident or luck has lead to many enlightening discoveries by mankind. Here, then is the tale of an unusual accident happening during a common brawl and the consequent events dependent upon it. The book was printed before in 1912, with a foreword by Sir William Osler. The present edition reprints this foreword and contains in addition an appraisal of Beaumont's work in the light of present day knowledge. This critique is authored by A. C. Ivy, Professor of Physiology and Pharmacology at Northwestern University. Ivy finds some of the work faulty as compared with that of the latter-day researchers. But attention is called to the primitive equipment at hand during Beaumont's day. Ivy concluded that, "One marvels at the high degree of accuracy of his 51 inferences."

To anyone interested in medical history and the lore of the beginnings, this book should have a deep appeal.—M. P. S.

**ORGANIZED PAYMENTS FOR MEDICAL SERVICES.** By the Bureau of Medical Economics, American Medical Association. Paper. Pp. 185. Chicago: American Medical Association, 1939.

Many schemes for the organized payment for medical services are described in this publication of the Bureau of Medical Economics of the American Medical Association. Several hundred plans for medical care of the indigent involving governmental

support and medical society management are explained.

The number and variety of the plans for medical services—operating and proposed, postpayment and prepayment, service and cash, medical society and other organization sponsored—give proof of the efforts that are being made to supplement the private practice of medicine and indicate a desire to discover, by social experimentation, a solution of local medical problems.

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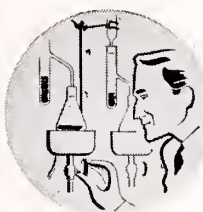
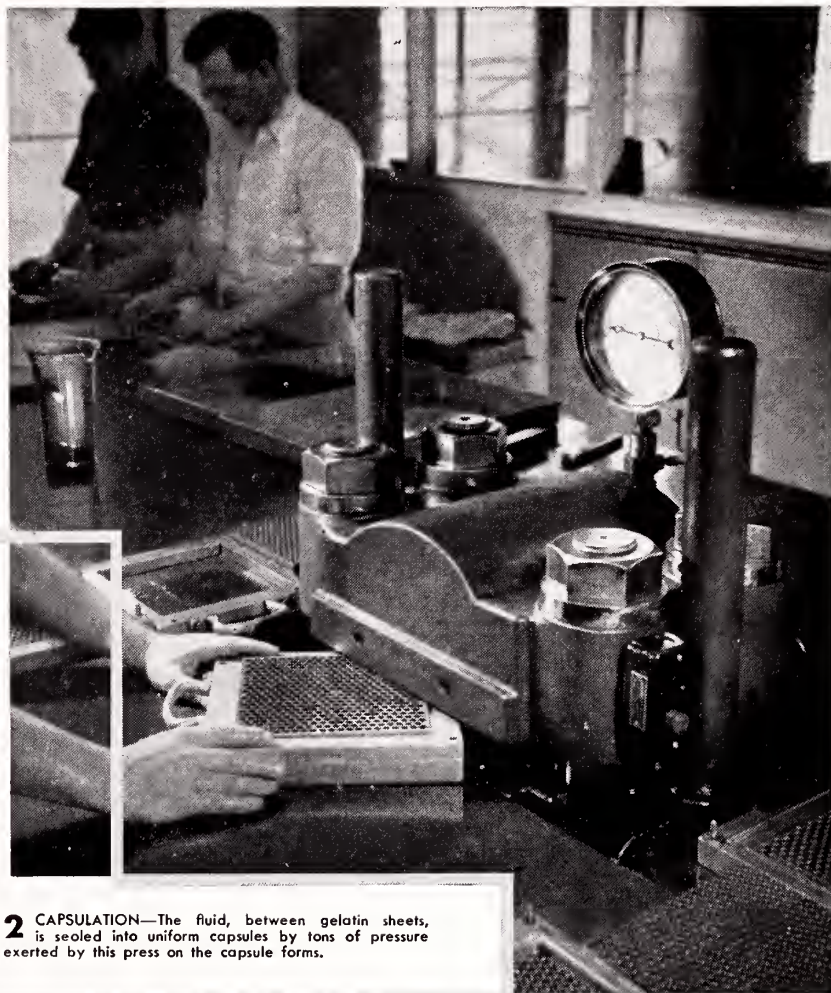
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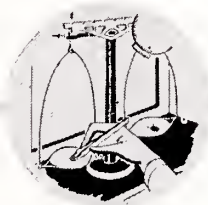


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## Malignancies of the Female Genital Tract

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*El Paso, Texas*

THERE can be no doubt but that the increasing death rate from cancer not only in the United States but in the entire civilized world constitutes one of the major health problems confronting the physician of today.

The bureau of vital statistics covering the registration area of the United States shows a steady increase in deaths from "cancer and other malignant tumors," from 63 per 100,000 in 1900 to 107.9 in 1935, thus rating cancer next to diseases of the heart, which lead the list as a cause of death. It is interesting to note that the arid southwest, for some reason not as yet understood, has a lower death rate from cancer than the rest of the nation. This is also reflected in El Paso's cancer death rate, which in 1937 was 88.7 per 100,000, or a total of 95 cancer deaths, 14 of which were uterine and 6, other female organs. I do not believe this increase can be explained by an increase in the average age of the population, or improvement in diagnosis, but must be accounted for by underlying factors and forces as yet not understood.

In women, who bear the brunt of the cancer deaths in approximately the ratio of seven to six for men, we find that in round numbers one-half of the cancers in women originate in the generative organs. Thirty per cent in the female genital tract and 20 per cent in the breast.

In reviewing our work covering the past 20 years, our records show we have treated by irradiation alone, or in conjunction with surgeons, 421 patients with malignancies of the female genital organs. As to nationality, 189 were Americans, 228 were Mexicans and 4 were colored. It is worthy of note that carcinomas are appearing at an earlier age. Between the ages of 20 and 30, there were 8, all being carcinomas of the cervix; between 30 and 40, 58; between 40 and 50, 132; between 50 and 60, 198; between 60 and 70, 57; between 70 and 85, 15; and 52 with the age undetermined. In carcinoma of the cervix, 312 were multipara and 9 nullipara. I regret that the space allowed for this paper prevents me from giving credit to the doctors referring the patients.

Malignancies of the female genital tract are divided into those involving: (1) the vulva; (2) the vaginal tube; (3) cervix; (4) fundus; (5) ovary and tube.

### CANCER OF THE VULVA

Carcinoma of the vulva is comparatively rare,

occurring only four times in our series. It is usually of the squamous cell variety and frequently begins on an area of leucoplakia accompanied by senile atrophy, but may begin as a chronic ulcer. It is always a serious condition and its early recognition and eradication is essential if metastasis are to be prevented.

In two of our cases, the lesion was located posteriorly on the labia majora and occurred before menopause. One was irradiated and then operated, but without relief. One had a vulvectomy and inguinal gland dissection and is now receiving deep x-rays for pelvic metastasis. One was irradiated and then operated, survived the five-year period and died of other causes. One was electro-coagulated and irradiated and has survived the five-year period without recurrence.

Malignancy of the vulva should be considered as a surgical rather than a radiological problem. Even when the inguinal glands that drain the area from an ulcer on the vulva are enlarged, one should not lose hope. Two-thirds of the enlarged inguinal glands removed at operation have proven to be inflammatory and not malignant. The character of the cancer bed here is such that lesions of the vulva do not do well under irradiation.

### CANCER OF THE VAGINA

Cancer of the vaginal tract as a primary lesion is rare. The vaginal tube is, however, frequently involved by direct extension from cervical and vulvar lesions and from ovarian metastasis. In our series, five carcinomas and one sarcoma were primary in the vaginal tube. The sarcoma responded to radium pack and deep x-ray, and has remained well over ten years. Early squamous cell carcinomas of the vaginal tube are destroyed by electro-coagulation and radium packs. Advanced cases are hopeless and deep x-ray offers the best palliative results.

### CANCER OF THE CERVIX

Carcinoma of the cervix, with the exception of Stage I cases, has by almost unanimous consent been handed over to the radiologist. It is regrettable that so many cases reach the radiologist in the second, third and fourth stages. Cancer of the cervix is perhaps the most easily preventable of all cancers. The outstanding etiological factors are endocervicitis, laceration and ectropion. Proper eradication of these conditions will do more to control cervical carcinoma than any other measure



available. Collected statistics quoted by Saltzstein and Topcik reveal that in 18,500 adequately treated chronic cervical lesions, only 15 cancers developed later. Conversely, of 2,255 patients with cancer of the cervix, only 33 had had adequate treatment of cervical lesions.

It has been well said that the obstetrician and gynecologist can prevent more cervical cancers than the surgeons and radiologists can cure. The cervix being a silent area, the disease usually progresses to an advanced stage before the patient realizes that there is anything wrong. At least 80 per cent of all patients are in an advanced stage when first seen. The death rate from cancer of the cervix can and will be materially reduced when women thoroughly understand the necessity for repair to all parturition wounds, the dangers from mechanical and chemical irritations and bacterial infections, and have an appreciation of hereditary tendency, as they have of tuberculosis.

The most frequent form of lesion on the cervix is that resulting from a laceration that permits the columnar epithelium lining the cervical canal to grow down over the cervix in place of the squamous epithelium. This cervical canal lining easily becomes eroded and cystic, and is the usual site of a beginning cancer. If all columnar epithelial surfaces facing into the vagina were destroyed by linear cauterization and the surface allowed to cover over with squamous cell epithelium, a big step would be made in reducing the cancer mortality. There are some cases that will require pelvic floor repair, cervical amputation and restoration of the uterus to a normal position in order to relieve the malposition and friction that causes the erosions. In other words, cancer does not develop in healthy tissue, and with a cervix restored to a healthy position and condition the danger of a cancer is eliminated.

#### *Diagnosis—*

Unfortunately, in most instances the diagnosis is too easily made. All too frequently there is an ulcer crater surrounded by a hard ring, and infiltration has already taken place into one or both parametria. Early lesions, if one be fortunate enough to see them, consist of small surface epitheliomata when they arise from the squamous cells. They may take on the inverting or evverting type. Early cancers originating in the cylindrical cells first present as a small, hard nodule which soon breaks down and ulcerates. Biopsy, thought to increase the danger of metastasis in our early work, is now a routine procedure. Grading and typing of cancer cells is of some value, but the history and extent of the disease are the main factors in determining the prognosis.

#### *Symptoms—*

The early symptoms of cancer of the cervix so well known by physicians and in many instances by patients, and, sad to say, so frequently ignored by both, are in the order of their frequency. Hemorrhage, 75%; give a history of inter-menstrual spotting; bleeding after intercourse; menses prolonged several days; inter-menstrual bleeding without

pain; discharge, 20%; a foul, watery leucorrhea; pain in the pelvis, 5%. In our series, we treated 339 carcinomas of the cervix. Five of these were Stage I, 40 Stage II and 294 Stage III and IV. Sixty-six were so far advanced that treatment was discontinued in a few days and the patient placed on narcotics. Twenty-seven returned between two and five years with recurrences. We do not know the exact number salvaged from this group. We have patients return for a check-up at regular intervals, and by making no charge for examinations hoped to complete our records. This plan has failed to collect the necessary data. In general, we would say that one might expect recovery in 70% of Stage I case, 30% in Stage II, 10% in Stage III and none in Stage IV.

#### *Treatment—*

The treatment technique has been gradually changing with improved equipment and a wider knowledge of its use. At present, the average patient is first given x-ray treatment with the following factors: 220 K.V., 15 M.A., Thoraeus No. 1 filter, 50 cm. distance, 15x15 port. One field a-p and two p-a are used. From 125 to 250 "r's" are given daily until from 1,800 to 2,100 "r's" are administered to each port.

Following the x-ray treatments which are given in the office, the lesion will in some instances entirely disappear. In others, it is wise to give very moderate, heavily screened radium treatments, usually not over 1,200 m.g. hours. This point should be emphasized, for we cannot urge too much caution with radium treatments if you are able to duplicate the x-ray treatments with the factors indicated above. Formerly with our 200 K.V. machine, we gave from 5,000 to 7,000 m.g. hours of radium in these cases. Extreme caution is taken to protect the bladder and rectum. The knee-chest position is used routinely when placing radium, and the vagina is firmly packed with gauze.

From four to six weeks are required to administer the complete treatment. Our aim is to keep just below the point of severe radiation sickness. Injections of liver extract are given three times a week to lessen radiation sickness. Supportive medical treatment and close attention to diet and elimination are essential and often turn what would have been an immediate failure into a success at least temporarily.

#### *Complications—*

Practically all cervical cancers are infected with numerous pathological bacteria. Two of our cases succumbed to acute streptococcus infection and two died from lighting up a sub-acute pelvic inflammatory process. Complications of this character are, we feel, avoided by giving the x-ray treatments before the radium is administered. Very foul ulcers will clear and heal under x-ray, and where we formerly inserted radium into highly infectious fields, today the radium field is practically sterile. Fistulae of bladder and rectum into the vagina are practically never seen in properly treated cases.

Three of our cases were complicated with pregnancy. The first was delivered of a dead child before treatment was begun. She lived only for a short time. The second was a very obese patient and the gravid uterus was mistaken for a tumor. While under treatment she delivered a ten weeks old dead fetus. This patient is still under treatment, but is not free of cancer. The third patient was delivered of a seven months baby by Caesarian section, but the baby died after several weeks. The mother has just completed her irradiation and has requested that she be returned to work. The case is regarded as hopeless as the involvement was very extensive. The most frequent terminal complication is an involvement of the ureters in the cancerous mass, resulting in obstruction to the flow of urine.

Thirty-nine of the carcinomas of the cervix had been operated upon. In some instances the malignant cervix was not discovered at the time of operation, but was reported back from the pathological laboratory or hemorrhages followed during the early postoperative weeks. In some cases the malignancy developed on a cervical stump of years standing. It is generally estimated that about 2% of cervical stumps undergo malignant changes, whereas complete hysterectomy increases the mortality by more than 2%. It is considered advisable in most benign conditions to cone out the gland-bearing membrane lining the canal of the cervix as a prophylactic measure rather than do a complete hysterectomy. Irradiation of a cervical stump carcinoma presents many difficulties, chief of which is close proximity of the intestine to the malignancy.

#### CARCINOMA OF THE FUNDUS

In carcinoma of the fundus, the pendulum swings back and forth between surgery and irradiation, with surgery having the preference in most cases. Cancer of the fundus occurs in two general forms, adenoma malignum and adeno carcinoma. The former is confined largely to the endometrial lining, is sometimes cured by curettment, and is easily destroyed by radium and deep x-ray. The adenocarcinoma is an infiltrating type of tumor and early invades the uterine wall and parametrium. When originating low in the uterus, it is difficult to draw a line between cervical and fundus carcinoma, as frequently both are involved. In lesions, so situated that drainage takes place into the cervical area, irradiation should first be used and then followed by surgery. Growths high in the uterine canal and which have not yet extended through the tube are best treated by pan-hysterectomy alone. If the growth has extended through either tube and involves the tube and ovary, preoperative x-ray will render the surgery more effective.

Uterine carcinoma usually occurs in women past the menopause, and an early symptom is profuse serosanguinous discharge that becomes foul after a few weeks. Pain and discomfort indicate an advanced stage and are due to an extension of the

growth to the parametrium and invasion of the pelvis. In our series, 62 carcinomas were treated, 40 in conjunction with surgery.

#### SARCOMA

Only two cases of clinically malignant connective tissue tumors were encountered in the uterus and parametrium, one of which originated in the uterine body, the other in the region of the ovary. Following hysterectomies, pathologists not infrequently report sarcoma in fibroid tumors. Very few, in fact, not less than 0.5% of these tumors conform to the definition of a cancer, i. e., infiltration through the tumor capsule and the setting up of metastasis, resulting in the death of the host. It, therefore, seems amiss to advise patients to have fibroids removed solely because they may become malignant when the operative mortality is so much greater than the incidence of malignant degeneration.

#### CANCER OF THE OVARY

Cancers of the ovary seldom reach the radiologist until after they have been discovered at the operating table. If the pathologist reports a papillary adeno-carcinoma in an ovarian cyst that has been removed intact, irradiation may be dispensed with. If, however, there are extensions into the broad ligament or to the pelvic peritoneum, or if multiple implants are seen on the intestine and mesentery, surgery should be as radical as possible and followed in a week or ten days by deep x-ray.

In any event, the mortality is high. In our series, we have treated ten cases of carcinoma of the ovary. Two had extensive recurrence. One is well over 15 years and one has passed the five-year limit. One is under treatment at present. Several have died of their malignancy and some who were treated and had no further trouble may have had their tumors completely removed at operation.

I have avoided reference to the many controversial agents supposed to be instrumental in producing cancer, stressing only the point of irritation as the causative factor. It is generally admitted that the irritation is not a simple mechanical process, but there must be present a constitutional tendency. This tendency may even contain the factors that upset the internal balance within the cells, tissues and organs and the centralized control of growth. It is not at all improbable that the sex hormones which so closely resemble the carcinogenic substances, play an important factor in malignancies of the female genital tract, but with our present knowledge of endocrinology. The best advice we can give is to restore to as nearly normal as possible areas in which diseased tissue exist before the cancer develops.

Looking forward one cannot but wonder if, as a result of the systic degeneration seen in ovaries following Theelin injections, the future does not hold a large number of potential ovarian malignancies. At frequent intervals various treatments are brought forward and advocated for cancer. The American Society for the Control of Cancer recog-



nizes but three destructive agents: surgery, x-ray and radium. So we feel that until some other treatment is approved, these should constitute our armamentarium.

### SUMMARY

In summary\* there are several points that I wish to emphasize. From my experience with 421 malignancies of the female genital tract, these conclusions are paramount:

1. Adequate treatment of chronic inflammation and irritations of the cervix and vagina is the important first line of defense against carcinoma of these organs.
2. Adequate treatment cannot be instituted un-

less frequent and painstaking examinations are made.

3. No lesion discovered should be assumed to be innocent until proven so.

4. If cancer is discovered, irradiation should be begun immediately. Surgery, of course, is sometimes the treatment of choice in conjunction with irradiation.

5. The opportunity for cure is a fleeting one. Advanced cases can expect only palliative results.

6. Reiterating conclusion No. 1. The gynecologist and the obstetrician can prevent more cancers of the female genitalia than can be cured by the best of treatment.

Roberts-Banner Bldg.

## Medical Control of Silicosis

FRANK T. HOGELAND, M.D.

Cananea, Sonora, Mexico.

QUITE a furor has been created in the United States regarding silicosis recently, due to the fact that everybody and his brother seems anxious to get into print on the subject, and, unfortunately, in some cases, with little or no basis in fact for their statements. For example, I read an article recently in which the writer cited a series of *exactly thirteen* cases, at the end of which he summarized, drew his conclusions, and turned it loose on an unsuspecting medical public.

There is no doubt in my mind that a silicosis problem exists, especially in the various states where siliceous ores are mined, but I feel that the problem should be approached cautiously and in a sane manner, so that justice may be meted out to employer and employee alike.

It behooves every physician in this state to acquaint himself with the condition so that, when called upon to handle his particular local problem, or to offer suggestions concerning possible legislation on the subject, he will not be found unprepared.

If we are to consider silicosis, I think we should define it, and while many definitions have been given by some very good authorities, I would like to give my own at this time.

"Silicosis is a chronic, incurable disease of the respiratory tract, caused by the inhalation of minute particles of free silica, characterized *clinically* by dyspnoea, a harsh unproductive cough, and a decrease in chest expansion; *anatomically* by the production of pulmonary fibrosis; *radiographically* by characteristic fibrotic nodulation; *economically* by a decrease in the efficiency of the workman; and *sociologically* by the creation of a human derelict whom someone must finally care for."

There are two types of silicosis, from many an-

gles as different as day and night; most certainly you cannot consider them jointly, from the standpoint of the evaluation of existing pulmonary fibrosis, nor the relation of this fibrosis to incapacity for work. There are first, simple, or uncomplicated, silicosis, and second, complicated silicosis.

In simple silicosis, the clinical findings are, in my opinion, of little or no value, and, for its diagnosis, we must largely, if not entirely, depend upon a good radiograph of the thorax.

In complicated silicosis, the clinical findings are invaluable in discovering the complication which, I should say, is pulmonary tuberculosis in 90% of cases. The x-ray in complicated silicosis reveals silicosis together with the complication, and, at times, shows very plainly the effect of the complication upon the silicosis itself.

### X-RAY TECHNIQUE

Speed and power are essential in producing a good chest radiograph, and to obtain these two important factors you must have good x-ray equipment; that is, equipment capable of producing 100 M.A. at from 60 to 90 P.K.V., and an electrical timing device which will give, at least, an accurate exposure of 1/20 of a second. My equipment will produce 300 M.A. at 125 P.K.V.

All my chest radiographs are taken at 100 M.A., 1/10 of a second exposure time, and 6 feet distance. These factors are constant; the only factor which varies is the number of P.K.V. used, which represents *penetration*. I think this is logical, as the only variance in chests is their thickness or the amount of tissue to be penetrated.

The thickness, or the antero-posterior measurement of the chest is taken in each case by using a sliding scale or rule similar to that used by shoemakers in measuring the length of the foot. The scale is in P.K.V. and has been carefully worked out as being correct according to the altitude in which you are working and the calibration of the tube with which you are working to produce a radiograph of proper density when developed for

I am not going into the etiology or the pathology of silicosis, nor am I going to enter into a discussion of the theories advanced as to just how the particles of silica inhaled produce the pulmonary fibrosis referred to in my definition. I am more interested at this time in the diagnosis of the condition and its control.

Read before Arizona State Medical Association, Phoenix, May 13-15, 1939.

5 minutes at a temperature of 65 degrees Fahrenheit.

It is a waste of time to try to do chest work with a 30 M.A. capacity portable x-ray unit, as your exposure time is so long that the patient moves or you get a pulsation of the heart, or the patient breathes, and the result is a blurred radiograph which is little better than nothing.

Chest pictures are taken in an upright position, the chest flat against the cassette tunnel, the dorsal surfaces of the hands resting lightly on the hips, and the shoulders thrown well forward as flat against the cassette tunnel as possible.

The exposure is made on full inspiration, being careful to see that all muscular movement of the act of inspiration has ceased.

The *marking device* must show the name and number, the date and the amount of penetration used in order to reproduce a radiograph of the *same density* at a later date, for *comparison*, as comparison of radiographs taken at intervals over a long period is an essential feature of silicosis control.

#### INTERPRETATION

In my opinion, the interpretation of a chest radiograph should follow a very definite formula, omitting none of the several steps, and, unless the interpreter understands fully the import of his observations, the resulting diagnosis is, at times, meddlesome, dangerous and often criminal. Years of experience and study of thousands of flat chest x-rays, and preferably stereoscopic x-rays is the only answer.

By the experienced miner, chalcopryite and iron pyrite are easily distinguished; personally I would be rather reticent in giving an opinion as to which piece of rock contained copper and what percentage, as I understand they are very similar in appearance. Thus it is with x-ray interpretation. Two films may be quite similar in appearance yet quite different from a standpoint of diagnosis.

##### 1. *Hilar Shadows.*

In incipient simple silicosis, the hilar shadows are definitely increased in size and density, and there usually appear circumscribed dense spots somewhat larger than the calcified spots seen as a result of infantile tuberculosis. In the later stages and especially in complicated silicosis, the hilar shadows tend to decrease in size, but the density remains the same or is further increased.

##### 2. *The Bronchial Tree.*

In incipient silicosis, the bronchial tree is at first slightly, and later more markedly, accentuated, and extends to the outer border of the lungs. Along the bronchial tree there begin to appear "beads" or circumscribed nodules. As the disease progresses, these "beads" increase in size from one to eight millimeters in diameter, and also in number, until the lung takes on a mottled or "snowstorm" appearance. This condition is usually bilateral and involves the entire lung, although it usually is at first more pronounced in the bases of the lungs. In the advanced stages this mottling tends to co-

alesce and form infiltrated areas similar to consolidation in tuberculosis.

In complicated silicosis, especially with pulmonary tuberculosis, the nodules in the complicated lung will be found to be larger than in the uncomplicated lung, and the edges become somewhat fuzzy.

##### 3. *The Apices.*

In all stages of simple silicosis the apices appear clear, with the exception of the presence of the silicotic nodules. Many authorities state that silicosis is a disease of the bases of the lungs. I have not found this to be true as the nodules are equally distributed throughout all parts of the lungs. In complicated silicosis you naturally get the clouding of the apices as you do in pulmonary tuberculosis.

##### 4. *The Heart and Aorta.*

In incipient simple silicosis there is little or no change in the heart shadow. In advanced silicosis the heart shadow does change and is of utmost importance in calculating the incapacity for work. The right heart is definitely dilated and the reason for this dilation is relatively simple. The right heart pumps the blood to the lung, and due to the existing fibrosis the blood vessels of the lung have little or no chance to dilate and compensate for the pressure of the pump stroke. Naturally, there is back pressure and the right heart must compensate with the resulting dilation mentioned.

The aorta usually appears dilated in silicosis; however, I believe what we see in a flat chest radiograph is the shadow of the great vessels displaced by the dilated right heart.

In many of the advanced cases of silicosis, I have observed the asthenicor vertical type of heart, even though earlier in the disease the heart appeared more or less normal.

##### 5. *The Diaphragm.*

These shadows should be semi-dome-like in form with clearly defined and regular outline. The right side slightly higher than the left.

There is no change in simple silicosis, but in advanced silicosis irregularities are sometimes found on the right side, indicating an enlarged liver. On the left side, shadows due to gas in the large bowel which obliterate the diaphragm shadow are commonly seen, and pyramidal projections indicating pleural or pericardial adhesions are fairly common.

##### 6. *The Costophrenic Angles.*

These should be seen clearly and sharply defined. There is no appreciable change in them in simple silicosis. When distorted or clouded, they indicate a previous pleurisy or pleural adhesions in advanced or complicated silicosis.

These pleurisies are usually of tubercular origin.

#### CLASSIFICATION

It is difficult for me to conceive of combining simple silicosis and complicated silicosis under one head, calling it a "progressive respiratory disease," and then nonchalantly dividing the whole thing into a mere three stages, especially from the standpoint of evaluating the percentage of incapacity for work in a given case, which may vary from one to one hundred per cent.



I believe it would be better to classify the disease in terms of percentage of fibrosis rather than by stages or degrees, and, furthermore, I believe the percentage should be governed by the diameter of the silicotic nodule, especially in simple silicosis.

For example:

#### SIMPLE SILICOSIS

Nodules averaging 1 mm. in diameter:	Fibrosis
2 " " "	5 to 10%
3 " " "	10 " 20%
4 " " "	20 " 30%
5 " " "	30 " 40%
6 " " "	40 " 50%
	50 " 60%

Naturally the clinical picture must also be taken into consideration, in the

#### Relation to Incapacity for Work;

	Incapacity
Those having up to 20% fibrosis may continue to work	None
Those having 20% to 40%— Surface work	up to 25%
Those having 40% to 60% Surface work	up to 50%

#### COMPLICATED SILICOSIS

The incapacity depends largely upon the complication and is much more difficult to evaluate than the mere fibrosis present; each case is a separate and distinct problem and no hard and fast rule can be laid down.

These cases are carriers and must be isolated from the working population.

For the purpose of evaluating cases in the United States, I would much prefer to use the classification adopted at the National Silicosis Conference, held at Washington, D. C., in February, 1937, which consists of four groups, as follows:

##### Group No. 1.

Workmen exposed to a hazard but who have no silicosis.

##### Group No. 2.

Workmen having silicosis but no incapacity.

##### Group No. 3.

Workmen having silicosis with more or less degree of incapacity, but with no complication.

##### Group No. 4.

Workmen having silicosis, with more or less degree of incapacity, with complication, especially pulmonary tuberculosis.

Groups Nos. 1 and 2 may be allowed to remain at work providing there exists adequate dust control and medical control.

Group No. 3 should be transferred to surface work commensurate with ability to perform.

Group No. 4 should be definitely retired from any sort of work, and, as previously mentioned, isolated from the working population and indemnified according to the law, or in absence of a law, in accordance with the existing capacity for work.

#### PROGNOSIS

The prognosis in simple silicosis is exceptionally good as to life; however, victims of the disease are predisposed to an intercurrent respiratory disease which may easily prove fatal; especially is this the case in pulmonary tuberculosis.

The prognosis in complicated silicosis is exceptionally bad, especially in silico-tuberculosis, in which condition I do not consider the prognosis as favorable as in pulmonary tuberculosis alone.

#### TREATMENT

There is no treatment for simple silicosis except to prevent an increase in the fibrosis by removing the worker from the dust hazard.

In complicated silicosis the complication is the thing to treat.

In passing, I might say that I am firmly convinced that *dust*, which is the causative factor, can be efficiently and economically controlled in any mining operation, providing proper methods of *dust control* be conscientiously carried out. However, that is another story which I would like very much some day to tell to a group of mining men.

#### MEDICAL CONTROL

1. A survey should be made of all underground workers in a given mining operation by means of a thorough clinical and radiographical examination, with the end in view of determining whether silicosis exists, how much and to what degree, and dispose of these cases under the aforementioned classification.

2. A rigid clinical and radiographical examination should be made of all new applicants for underground work, with a view of excluding all silicotics and other unsuitable types. These would include flat and deformed chests, vertical type hearts, those suffering from cardiac disease, syphilis, certain types of chronic skin disease, chronic respiratory disease, especially tuberculosis, and any other disease, deformity or condition found in the course of the examination, which, in the opinion of the examining physician, would render the applicant unfit for such work.

3. An annual or bi-annual examination of all underground workers, as deemed advisable, in order to determine the actual condition of the worker; and to maintain and preserve a clinical and radiographical record of the same, not only from the standpoint of silicosis but, also, as to his physical ability to perform the work.

In order to carry out this program, I have devised a special form.

The front of the card shows the history and physical examination data.

On the reverse side is shown the data I want to know about a silicotic patient or worker who is apt to become one. The top columns will show ten annual examinations, for comparison, and will definitely show the workman's condition when he entered the service and when he left it, which gives invaluable medico-legal evidence in a concise form. This, coupled with the x-ray file, should keep you in touch with the miner's condition, under your care, at all times.

##### 4. Methods of filing.

The radiographs, whether one or more, are placed in a heavy manila envelope which is marked with the the name, registration or work number of the workman, and the x-ray number. These are filed,

At our meeting in Nogales, Dr. C. A. Thomas, of Tucson, read a very interesting paper on the Surgical Treatment of Pulmonary Tuberculosis, and I asked him during the discussion if he could offer anything to these cases of Silico-tuberculosis. He replied that "in the presence of fibrosis, lung surgery was contra-indicated." I would like to ask him to tell us whether he has since changed his opinion.

alphabetically, in a battery of fireproof metal files fitted with canvas pockets to support the weight and prevent sagging.

Those actually working, those rejected, those who have left the service, and known silicotics, are segregated.

The control cards are filed alphabetically in similar files and segregated in the same manner as the radiographs, but with the addition that small signals, numbered one to twelve, are attached to the cards at corresponding points on the upper edges, to show the month in which they are to return for their annual or bi-annual recheck.

#### PROGRESSIVENESS OF SILICOSIS

Just one thing more before I close. While it may not be properly considered a part of this paper, I cannot refrain from saying something regarding the *progressiveness of silicosis*, about which there exists a great difference of opinion, so, for the sake of the miner as well as his employer, I would like to see the argument definitely settled.

It is my opinion that fibrosis in the lung in *simple silicosis* does *not progress*, provided the worker is removed from the dust hazard.

In *complicated silicosis* the fibrosis most certainly does progress, and the sole cause of the progression is the complication itself.

While attending the *Third Symposium on Silicosis*, held at Saranac Lake, New York, in June, 1937, I asked Dr. L. U. Gardner if he believed a simple silicosis progressed following the removal of the workman from the dust hazard. He replied that he did, and Dr. Riddell of Canada, who was present, concurred in Dr. Gardner's opinion.

Naturally, I was disappointed, especially in the face of the fact that Dr. Sampson, the radiologist of the Trudeau Foundation, had stated in his outline of a paper he read at that meeting:

"Three years observations of hundreds of cases of nodulation have revealed only isolated instances of progression."

It seems to me very likely that he might have missed the complication, as I have done at times, which caused the progression in these isolated cases.

About four months later I was rather pleased when I ran across an article in the October, 1937,

issue of *Industrial Medicine*, under the title, "Silicosis on the Iron Range," Volume 6, No. 10, page 571. I quote:

"Gardner claims that tuberculosis in iron workers is much slower than in workers in other mines, such as lead and zinc. He claims silicosis is *not progressive* after exposure is stopped."

This seems to me to be a reversal of the umpire's decision. I certainly hope so. The miner, as well as the employer, would find themselves in a rather awkward situation if they never knew where they stood after settling a case as, apparently, there would be no end to the affair.

Finally, I wish to say that I have considerably more than thirteen cases on file to back up my opinion, as stated above, some of them with a follow-up of as long as five years.

#### DISCUSSION

Dr. Smith: Dr. Hogeland's paper is now open for discussion.

Dr. Bacon: Every man who has had anything to do with silicosis knows you can't discuss that subject in two minutes, but I do wish to compliment Dr. Hogeland on his presentation of this interesting question, because it is of interest to every doctor in the state of Arizona, particularly to the lung man, the tuberculosis man, and as well as to the industrial man.

Dr. Smith: Any further discussion? If not, do you have anything further to say?

Dr. Hogeland: I would like to have some of the lung men present give me an opinion as to the surgical treatment of complicated cases of silicosis.

Dr. Richards, of Bingham Canyon, Utah, showed me the radiographic results of a case he had treated surgically, and assured me the patient had returned to work in the mines, although I could scarcely believe it.

I would like to know whether they would advise surgical treatment in such cases in an effort to do something for them.

Dr. Randolph: The whole point at issue would be the patient's vital capacity and general condition if simple silicosis is not progressive, and if we have in the contralateral lung no complication. Of course, a silicotic lung does not collapse as well as a non-silicotic lung. We have in our office used pneumothorax in quite a number of cases that have had silicosis, and I believe that in only one case have we finally succeeded in getting the cavity to close. Some have had adhesions that we have cut, but we have not been able to get the lung down. If the contralateral lung is not involved, then surgery would not be contra-indicated.

## Proctology for the General Practitioner

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IN order to cover the whole subject of proctology in a broad way, only the more common conditions, that is, those which the general practitioner encounters most frequently, will be discussed. A thorough examination, including digital, anoscopic, and proctoscopic examination is necessary in all lesions of the anorectal region, in order that the more common ailments may be distinguished from

those which are more serious and more infrequent such as: carcinoma, ulcerative colitis, etc.

#### IMPORTANT SYMPTOMS

The signs and symptoms most important are: pain, bleeding, bearing down, frequency or retardation of evacuation, itching, etc. Any change in bowel function, especially a frequency with a sense of incomplete evacuation, is an important sign in cancer, and may also accompany ulcerative colitis of any type. Pain is usually most important to the

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patient, and appears most frequently in fissures or ulcers, thrombotic hemorrhoids, and abscesses. Bleeding is most important because it may mean cancer, ulcerative colitis, amoebic colitis, a degenerating polyp, internal hemorrhoids, or fissure. Bright bleeding, with or following stool, and not accompanied by pain, is usually caused by internal hemorrhoids. The bleeding from bowel ulcers or new growths is usually darker in color and may be mixed with feces, mucus, and pus. Fissures, or ulcers, are usually located just within the posterior margin, and often difficult to locate because of the muscle spasm, and because of the severe pain caused by examination. The pain occurs with and following b.m. Bleeding is usually slight and may be only a spotting on the tissue. Sometimes a sentinel pile will give a clue. A topical application of cocaine or metycaine should be made to the lesion with a soft cotton applicator before a manual or anoscopic examination is made.

#### FISSURES

Only in small recent fissures is local treatment of value, as a rule. Local treatment consists in the application of hot compresses, a restricted diet, and some soothing ointment. Frequently the injection of an anesthetic in oil, as anucaine, or butecaine, into the muscle on each side and beneath the fissure, may effect a cure. The presence of an inflamed papilla or crypt above the fissure will defeat all local treatment, and surgery is indicated. If the fissure does not respond to local treatment, surgical excision is necessary. The fissure and surrounding inflamed or scar tissue is removed, with the crypt or papilla, if present. The incision is carried through the superficial part of the external sphincter muscle, and a large triangular area of skin posteriorly is removed.

Thrombotic external hemorrhoids are common and cause marked discomfort. They are due to a rupture of a vein, and form a rounded or edematous mass in the perianal skin or anal mucosa. Local excision with novocaine or nupercaine is usually all that is required. The clots may be single or multiple and the incisions must be varied accordingly.

#### ABSCESSES

Abscesses, which appear externally, usually result from an infection in an anal crypt, and may be classified as peri-anal or ischio-rectal. Internal abscesses are either sub-mucous or intra-mural. A peri-rectal abscess may be an extension upward of an ischio-rectal abscess. The abscess should be opened as soon as induration is located, either under local or other anesthesia. The patient must be advised that the opening of the abscess is not curative, and that a second operation for the fistula must be performed at a later date. A heavy bearing down, or throbbing pain, often accompanied by urinary retention, may indicate a submucous or peri-rectal abscess. The submucous abscess is incised its whole length and the edges sutured. The peri-rectal type should be opened from the outside because generally they originate from the extension upward of an ischio-rectal abscess. In opening any

type of an abscess, wide incision with removal of a large amount of skin, is the best method. Packing is not used.

#### FISTULAE

A fistula may be called an unhealed abscess. The internal opening is usually found in the base of a fissure or crypt. The injection of a staining fluid, as methylene blue, may be an aid in locating the tract and internal opening. If the fistula is of long standing, the tract may be palpated running from the external opening to the anal wall. Frequently a bent probe may be passed from the internal opening outward and the tract determined in this way. Superficial fistulae, which result from peri-anal, or marginal abscesses, may pass external to the external muscle or only through the superficial portion. Incision straight through the tract over a probe, with excision of the fibrous tract is usually all that is necessary. Those fistulae resulting from ischio-rectal, or other deep abscesses, usually pass above the external sphincter muscle. The best procedure is to circumscribe the external opening, extend the incision into the fat, and dissect the tract to the anal wall. If a large amount of tissue has been removed, and there is danger of the muscle ends separating too widely when incised, a linen seton is placed around the muscle. When the wound has filled in close to the muscle, the bridge of tissue, including the muscle, is injected with local anesthetic and incised. If the fistulous tract is short and straight, it is perfectly safe to incise the muscle at the primary operation. After-care consists in preventing bridging over of the incision, and the use of a healing powder after the first few days. Greater care must be used in anterior fistulae, especially in women, due to the elasticity of the tissues of the perineum. If there are two separate fistulae, the muscle should be incised only in one place and a two-stage procedure used for the second fistula. When there are several external openings, and only one internal, all tracts are united and treated as a single fistula.

#### CRYPTITIS AND PAPILLITIS

Pain and discomfort may also come from cryptitis and papillitis. The papillae may be large enough to be felt with the finger, and can always be seen with the anoscope. The crypts are pockets found at about the ano-rectal junction and may be associated with enlarged papillae. A bent probe may be passed into them and the limits outlined. Local treatment is only palliative, and surgical removal is indicated if there are symptoms present, or if it is considered that they may be foci of infection. Complete removal and not mere incision is the best procedure. They are picked up with a forcep or upon a probe and excised with the scissor, and the incision carried out into the skin for drainage.

#### HEMORRHOIDS

Internal hemorrhoids may come to the notice of the patient by bleeding at stool, protrusion, or sense of fullness in the rectum. They are seldom palpable unless thrombosed or the mucosa is hyperplastic due to long continued irritation of protrusion and

reduction. Some internal hemorrhoids remain in a partial prolapsed state, and some must be replaced after every movement or effort of straining. All of the above named types should be treated surgically in order to get the best and most permanent results.

Surgery is best done under spinal, sacral, or general anaesthesia. Some method of ligation and excision, or suture and excision, are the methods of choice. The ligatures used are usually heavy linen, or when the suture is used, Number I chromic gut is usually sufficient.

A certain amount of relief may be obtained by the injection treatment in mild cases. Sometimes, however, if the economic situation is explained to the patient, he will accept the operation. The injection treatment is valuable in the aged and debilitated, and in those mild cases of bleeding with little prolapse. The solutions used are usually phenol 5% in a vegetable oil, or quinine and urea 5%. The chief disadvantages of the injection treatment are: first, that too often the diagnosis of fissure, ulcer, abscess, and cancer has been missed, and all the symptoms have been attributed to "piles"; secondly, that the injection has not been properly given or too much solution used, with a resulting sloughing followed by hemorrhage or abscess. If the injection treatment has not been successful, surgery should be postponed until a good blood supply has been re-established.

#### PRURITIS-ANI

Pruritis-ani is most exasperating to the patient and most embarrassing to the doctor. The causes

are many. Athlete's foot, or other fungus infection are frequent offenders. Infection from crypts, and rectal infections are often the cause. In the treatment all known pathology must be removed. Soothing ointments and lotions are used at first, with strict attention to cleanliness, both inside and outside the bowel, by baths and enemas. Antifungicides as sulphur and salicylic acid, and weak mercury preparations may be used. Allergy must be ruled out. Injection of anaesthetics beneath the skin, and even the injection of alcohol, may be necessary. Small doses of x-ray frequently give good results after known pathology has been removed.

Polyps should be removed with the electric cautery, or with diathermy. After removal, a section for examination should be sent to the laboratory because, frequently, a benign-appearing polyp may be undergoing malignant changes.

#### STRICTURE

Rectal stricture is now considered to be chiefly due to the effect of lymphogranuloma infection. They occur most often in the female, and in the Negro or Mexican. This type of stricture is accompanied by ulceration of the mucosa, thickening of the rectal wall, and a gradual stenosis of the bowel which may extend upward for several inches. A positive Frei Test is usually diagnostic. Treatment has been unsatisfactory, and in many cases, it is necessary to resort to permanent colostomy for relief.

1930 Wilshire Blvd.

## Diabetes Mellitus

With Analysis of Cases Treated with Protamine  
Zinc Insulin

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**D**IABETES mellitus was described 1500 years B. C.; its satisfactory treatment with Insulin dates back to the discovery of Insulin in 1921, by Sir Frederick Banting and C. H. Best. There is probably no other disease about which more has been written, and certainly for only a few diseases has a more satisfactory method of treatment been developed than for diabetes mellitus.

The diagnostic test for diabetes is one of our oldest and simplest procedures—the testing for sugar in the urine. There are over 500,000 sufferers from the disease in the United States, alone. Yet today much can still be done by the physician in recognizing the disease more frequently and managing it more successfully.

The purpose of this paper shall be to point out some of the practical fundamentals about diabetes mellitus and its treatment with regular and modified insulins; also, to analyze some of the data se-

cured from a study of 81 of my unselected patients. Our textbooks and literature contain a great wealth of knowledge of diabetes, but too little about the actual standardization and management of a patient.

If all physicians would attempt to manage their patients as well as they do themselves when they develop diabetes, our patients would benefit greatly. This is well illustrated by Joslin's<sup>2</sup> statement—"these 300 physicians do far better than my other patients, and for those under thirty-nine years of age, the mortality is less than one-quarter as great. Not a doctor in this group has died of diabetic coma since 1925."

The obligations of physicians are as follows: (1) make the diagnosis; (2) control and keep the disease regulated; (3) educate and train the patient as to the fundamentals of diabetes, diets, actions and administration of the insulins, testing of the urine, and general hygienic measures. It is in the proper education of the patient that physicians too often fail. I cannot over-emphasize the importance

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From the Section on Internal Medicine, Lois Grunow Memorial Clinic.



of the education of the patient because, if the doctor thoroughly schools his patient, proper control and management will follow.

#### DIAGNOSIS

For practical purposes, diabetes mellitus is defined as a disorder consequent upon a diminished ability of the body to utilize glucose—which is manifested clinically chiefly, by polyuria, polyphagia, polydipsia, loss of weight, fatigue and by glycosuria and a fasting hyperglycemia, 140 mgm/100 cc. of blood, or above, or a post-prandial blood sugar of 170 mgms., or above. A discussion of differential diagnosis and the cause of diabetes is not included in the scope of this paper except to call your attention to the relationship of obesity and the diagnosis of diabetes. Newburgh and Conn<sup>5</sup> found in many middle-aged, obese persons who appeared to have diabetes, that after the weights of these had been reduced to normal they remained aglycosuric even on high carbohydrate diets and they exhibit normal dextrose tolerance curves. They suggest this phenomenon is not due to a lack of insulin, but due to excessive accumulation of fat in the liver with a resulting impairment in its capacity to lay down glycogen. Thus, they state that their studies establish a clinical entity in which obesity is the primary abnormality and the hyperglycemia is a secondary phenomenon.

I have seen several patients who have had this type of hyperglycemia but I feel that even though we tell these individuals that they do not have true diabetes mellitus we should, for their protection, warn them that they might later develop true diabetes, especially if an infection should ensue.

In the original diagnosis of diabetes, one should establish roughly the grade of diabetes, as mild, those having a small amount of sugar in the urine, with a fasting blood sugar below 250; moderately severe, those who are spilling more than 1 to 2% sugar in the urine, and with a fasting blood sugar between 250-350 mgm./100 c.c. All patients who show acetone or diacetic acid in their urine, irrespective of other findings, must be considered severe and treated as such, because ketosis is present and coma may be impending. The severity of diabetes usually becomes less severe during the first month or so of treatment, as the general body metabolism becomes readjusted toward normal.

#### TREATMENT

Diabetes and its treatment becomes much easier if one has a mental picture of it. Hence, in Figure 1, I have attempted to diagrammatically picture the disease as a simple set of balances. The beam signifies the patient, who must be kept level. The endogenous deficiency of insulin shown in the left pan which, along with the food intake, must be balanced by the lessened endogenous insulin and by additional exogenous insulin. The state of balance of the pans is determined by the blood sugar level and the amount of sugar in the urine. This is represented by the indicator.

There are extraneous factors which may alter the insulin requirement of a patient. These are vari-

ables such as are illustrated by the use of the sliding weights. On the left side of the fulcrum are shown infections and other diseases, trauma and surgery and obesity. The severity of these complications can be visualized by moving the weights to the left. Thus, by this diagram, it is immediately apparent that the more severe the complication, the more insulin will be required to keep our system in equilibrium. On the right is another weight depicting the general effect of exercise; that is, it will in a measure reduce the amount of insulin required.

The age of the patient is shown on the beam. By shifting the fulcrum to the respective age of the patient, the general effect of the age is shown; namely, that diabetes in the young is usually more severe, requiring more insulin to set the balance system in equilibrium.

The physician holds the balance system with one hand, and with the other he adjusts the weights; i.e., insulin, diets, complications, etc., until the indicator points to normal blood sugars and aglycosuria. This adjustment we call standardization, or, control of the patient.

With this illustration in mind, we set about to standardize the patient. The first question is, shall we send the patient to the hospital. If the patient has ketosis or major complications, he should be sent to the hospital—but, if he does not have ketosis or any major complications, and he is moderately intelligent and cooperative, I prefer to standardize them by frequent visits to my office and by keeping in close touch with them by telephone.

There are many reasons supporting this regime. The office and home method is more economical; it is quicker, as it affords the patient an opportunity to carry on his usual habits; and it will force the patient to more quickly and thoroughly learn about diabetes, his diet and personal management.

By the aid of a nurse, even severe cases may be managed at home, if laboratory facilities are available. I have found that patients usually do better if they are forced to share the responsibility from the start.

#### DIET

It has been said that it makes little difference what kind of a diet a diabetic patient follows, so long as he diets. This statement is in a large measure true, but they must diet accurately.

The ratio of carbohydrates to fat in the diet is still open to discussion. At the present time, the majority of writers show preference to the higher carbohydrate diets, using ratios of from one to three grams of carbohydrate to one of fat. Seale Harris<sup>1</sup> has recently summarized the advantages of the higher carbohydrate diets. The chief advantages are that patients have a more normal food intake, hence, will follow the diets more closely; carbohydrates furnish ready energy and produce complete combustion of fats, avoiding acidosis. Carbohydrates do not aid in the production of arteriosclerosis as may fats—carbohydrates are insulinogogues.

Some patients can be satisfactorily controlled

# DIAGRAMMATIC PICTURIZATION DIABETES MELLITUS

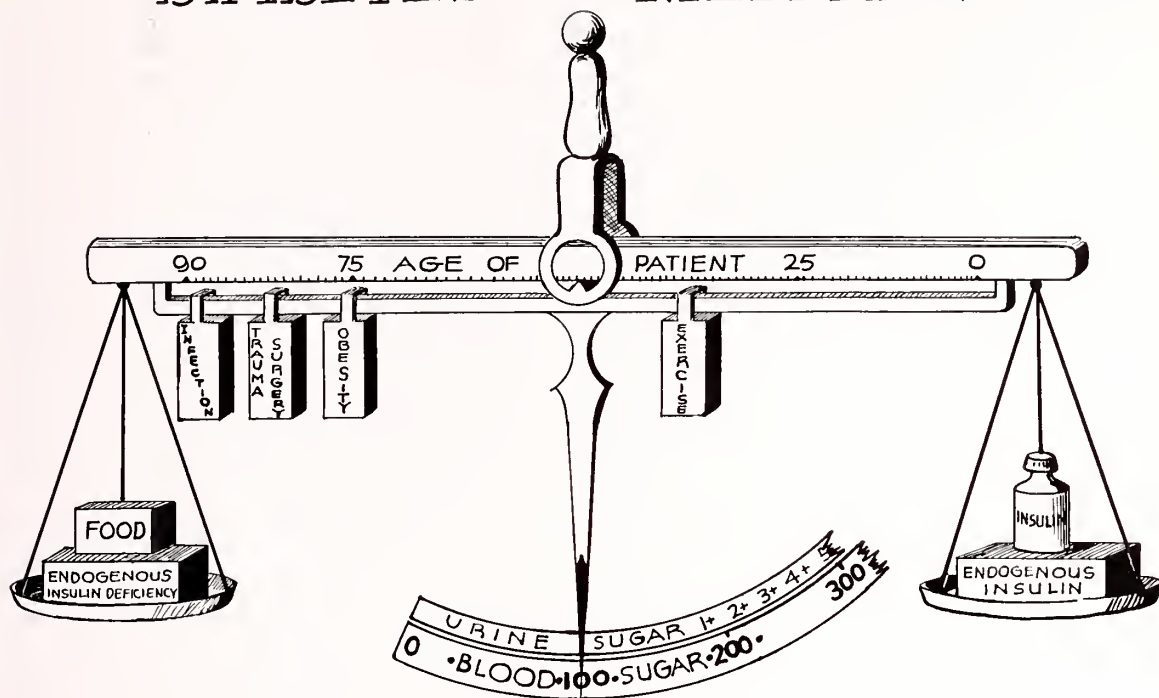


Fig. 1. See text.

without the use of insulin; for these, the higher fat diets can be used. For the patient using insulin, the present cost of insulin is not a serious factor and the addition of a few more units to care for added carbohydrates is desirable. This is especially true since the introduction of protamine-zinc-insulin, because more liberal diets are tolerated and usually one dose of insulin daily is adequate.

There are many dietary manuals available today. Physicians should have little difficulty teaching patients how to manipulate diets, if they will take more time instructing them.

I prefer to start most of my patients from the beginning on full maintenance diets, plus whatever additional calories are necessary for that particular individual. This method is easier because it obviates the necessity of several insulin readjustments, consequent to changes in the diet from customary starvation diets through several stages up to the maintenance-plus diet. Also, the regime gives the patient sufficient needed food and calories to more quickly repair the damages wrought by the disease. With this regime, the only dietary changes necessary are those to secure and maintain the desired body weight.

The household measure system for the compiling of a diet, I have found to be more convenient for the patient, easier to use and sufficiently accurate.

## INSULIN

The introduction of the modified insulins has not

simplified the treatment of diabetes as far as the physician is concerned, for him it has made the treatment more intricate. The introduction of protamine-zinc-insulin, and more recently crystalline zinc insulin has made it possible to better control the patients. The management of the moderate and mild cases has been greatly simplified by the longer-acting insulin; but, in the severe cases, and the complicated cases, it is necessary to use the unmodified insulin, in combination protamine-zinc-insulin.

Regular or old insulin begins to act within a few minutes and reaches its peak reaction in about 30 to 60 minutes. This action is maintained to 2-4 hours, then recedes rapidly. Protamine-zinc-insulin is slowly absorbed, hence, the action of a single dose builds up slowly, reaching its maximum effect in about 15 to 18 hours, and the hypoglycemic effect may be maintained for 12 to 36 hours, then the action gradually subsides. The total duration of action of a common dose, is between 50 to 65 hours (McCullagh<sup>3</sup>). Since it acts over 24 hours, a cumulative action is produced which increases to the third day.

The total effectiveness of a single daily dose of protamine-zinc-insulin cannot be fully determined for 4 to 7 days. This cumulative action of protamine-zinc-insulin is a very important factor to be kept in mind because it is necessary to wait 5 to 7



days without a change in the trial dose to ascertain its maximum effect.

The advantages gained by the use of protamine-zinc-insulin are chiefly the number of daily doses and units required are materially reduced. In a small series, previously reported by Smith & McKeown<sup>6</sup>, there was a unit saving of 17% to 27% and 24.3% reduction in number of daily doses. The slow, even absorption of protamine-zinc-insulin more clearly simulates nature's method of supplying insulin. There are fewer hypoglycemic reactions. There is more even control, hence, fewer periods of ketosis, especially during the night when regular insulin, as used during the day, has little activity. A more liberal diet is tolerated. There is an improvement of subjective symptoms in most cases, and they live more like normal individuals.

There are certain disadvantages in the use of protamine-zinc-insulin. The most important is that the reaction comes on more slowly and may appear without subjective symptoms. These reactions are more prolonged and may require intravenous glucose or the giving of adrenalin. Patients taking protamine-zinc-insulin must have more frequent blood sugar determinations because relatively severe hypoglycemia may be present without the patient being aware of it. However, if blood sugar determinations cannot be done frequently, if the patient has an occasional positive urine specimen, less frequent sugar determinations are sufficient. Control of diurnal-glycosuria is more difficult, but there is no nocturnal glycosuria. By giving a patient a diet consisting of a breakfast, 1/6 of daily intake; 1/3 at noon; 1/3 at 6 p.m. and 1/6 at bedtime then there will be less tendency for diurnal glycosuria and less tendency for nocturnal hypoglycemia.

In a study of 1022 cases of patients taking protamine-zinc-insulin, Wilder<sup>7</sup> found that probably less than 5% of these individuals could not use protamine-zinc-insulin successfully.

I have had one asthmatic patient who developed urticaria from protamine, but he could use regular insulin without difficulty. Patients using protamine-zinc-insulin must have a more uniform habit of exercise, because indulging in unusual exercise is more apt to precipitate severe reactions. The patients must eat their meals regularly because the stored insulin is always active. Protamine-zinc-insulin acts too slow to be used alone in coma; here, we must use regular insulin. In the very severe cases, protamine-zinc-insulin does not give adequate control; hence, it is best used in combination with regular insulin. Due to the prolonged action of protamine-zinc-insulin, it is best to use regular insulin in complicated cases, where insulin requirement may be altered rapidly by the disease or lack of ability of the patient to eat. When surgery or acute disease become complications in a patient who has previously been on protamine-zinc-insulin, I have found it satisfactory to give them one-half the normally required dose of protamine-zinc-insulin, and then supplement with regular insulin as

indicated. This smaller dose of protamine tends to supply the basal needs and assures some control at all times.

A patient taking protamine-zinc-insulin may at times show unexplained glycosuria, but since these occur for only short periods following ingestion of food, it is now thought to be of little significance. Post-prandial glycosuria is common, but an occasional spill of sugar in the urine is not serious.

I have had one patient, which I saw infrequently, that developed marked tissue atrophy at the site of injection.

It has been generally agreed by various investigators that if more than 60 units of protamine-zinc-insulin is needed for control that it is wise to supplement with regular, because a dose above 60 units of protamine-zinc-insulin is relatively less efficient and there is too much danger of nocturnal hypoglycemia. I have found this to be true, however, in one case, a 16-year-old girl, has been successfully controlled by using 140 units of protamine-zinc-insulin in a single daily dose.

The above discussion covers the pertinent points of action and limitations of the two types of insulin. The disadvantages of protamine-zinc-insulin are outweighed by its advantages. In the 81 cases presented here (Table 1), all the uncomplicated cases were successfully controlled with one dose of protamine-zinc-insulin daily, except for 27% of the severe young cases. In the severe, younger group, the combination of the two insulins gave a more satisfactory control. The very uncooperative patient is best treated with regular insulin. In the elderly patient who has coronary disease, caution must be used to prevent hypoglycemia, irrespective of the type of insulin used.

In the standardization of a patient, the most difficult decision to make is the determination of the initial doses of insulin to use. The apothecary learns by experience, the approximate size of a weight needed to balance an unknown quantity—so must the physician learn the initial doses of insulin by experience. If the first choice of weights does not balance the scales, he chooses larger or smaller weights, as indicated until an equilibrium is reached. With figure one in mind, the physician does the same with the amounts of insulin as does the apothecary with his weights. The initial doses used are, at best, intelligent guesses.

#### EARLY MANAGEMENT

In starting a patient out, it is well to remember that a diabetic case is not an emergency unless complications and/or acidosis is present. The vast majority of the patients when first seen have had diabetes for some time, and an emergency does not exist. The time period for controlling a patient with diabetes may safely be several weeks, because, in the average case, it is not wise to force the bodily readjustment too fast.

There are several suggestions which may aid in arriving at the initial doses. Mozenthal<sup>1</sup> has found the average lowering of blood sugar to be 8 mgm. per unit of insulin or, the initial daily dose may be

one unit of insulin for every 3-4 grams of glucose excreted in a 24-hour urine specimen.

When starting my patients off, using protamine-zinc-insulin, I have found a safe initial dose to be approximately one unit for every 10 mgms. of glucose in a fasting blood sugar. This dose usually is not sufficient, and is increased as indicated. During the first 3-4 days, in moderately severe or severe cases, I use small additional doses of regular with the meals, to hasten the standardization, if the urine specimen voided before the meal has more than  $\frac{1}{4}\%$  sugar.

Another procedure which I formerly used more than now, was to first determine the requirement of regular insulin to render the urine sugar free; replace this regular insulin with protamine-zinc-insulin, using 70 to 80% of the units of regular insulin required. The full effect of giving a daily dose of protamine-zinc-insulin is not apparent for 4 to 7 days. It is more wise to under-dose a patient during the first part of the regime than to overdose them, as an emergency does not exist in the absence of complication.

The patient's tolerance to glucose will gradually increase and the requirement for insulin will decrease over a period of weeks to months, as the diabetes is kept under control. A patient who originally appeared to be a severe case may turn out to be very mild, after the maximum bodily readjustments are made. This means that after the original

secondary to the diabetes itself. The average duration of the diabetes prior to admission was 58.5 months.

Physicians should be more alert to the possibilities of diabetes and more careful in their search for it and not treat complications, leaving the diabetes unrecognized. Twenty-seven per cent of these cases had been treated by physicians for other diseases and even major surgery done, without the attending physician being aware of the existence of diabetes, and/or making any attempt to treat it, and in 7.5% of these cases, the patients knew that they had diabetes and their physicians did not.

TABLE 2.

STATUS OF PATIENTS —						
ON ADMISSION				AT TIME OF ANALYSIS		
CASES Previously Diagnosed 53 Average Duration 58.5 Mo.				ALL CASES		
DIET	On Definite Dietary Regime	No. Patients	Percent	Condition	No. Patients	Percent
		8	15	GOOD	61	77.0
				FAIR	16	20.2
				POOR	2	2.5
USING INSULIN		30	56.6		51	96.4
Not using Insulin but required		21	39.6		0	0
CONTROL	Poor	39	73.5		3	3.7
	Fair	6	11.3		17	21.5
	Good	8	15.0		59	74.7
	Mild				22	27.5
GRADE	Moderate				35	43.7
	Severe				23	28.7

*Complications Developing During Treatment Died 5 (Tbc 3 Obstructive Jaundice 1-Heart Failure 1)-Coma 1- Impending Coma 1- Gangrene 1-Major Surgery 0-Severe Hypoglycemia 3 Tissue Atrophy from Insulin 1*

TABLE 1.

## ANALYSIS OF CASES

Total No. 81-Clinical 58 or 71.6%-Private 23 or 28.4%-Male 37 Female 44  
Average duration of Observation 9.5 Mo.

CASES TREATED 1 Mo. or Over 79 or 97.5%

" " 6 " " 45 " 55.5

" " 12 " " 26 " 32.0

" " 18 " " 12 " 14.4

" " 24 " " 9 " 11.0

New Cases-without previous treatment 28 or 34.5%

Major complication present on admission 17 or 67.8%

Known Cases previously treated 53 or 65.4%

Major Complication present on admission 27 or 50.9%

Cases treated by Physicians for other diseases without Diagnosis and/or treatment of Diabetes 22 or 27.1%

Patients who knew they had Diabetes yet treated by Physicians who were unaware of the Diabetes 4 or 7.5%  
(One of these had elective Major Surgery)

standardization is made, readjustments of dosage may have to be made for a long time.

## ANALYSIS OF CASES

The following analysis of 81 cases is presented to bring out certain pertinent facts. Most of the statistical material is given in the tables, and is self-explanatory. The average duration of observation was 9.5 months, and none are reported who were not followed one month, and others were observed for over two years. (See table 1.)

In this series, 67.8% of new cases presented themselves, not particularly because of the existing diabetes, but because of major complications. Fifty per cent of the old cases came seeking relief because of major complications, most of which were

Only 15% of the previously diagnosed group had been schooled in dietary management. (Table 2.) Most all of the patients said they had merely been instructed to "cut down on the sugar and starches." Ninety-seven per cent of these patients are now following a good or fair dietary regime. In a few instances, economic circumstances have made dieting difficult, and a few patients are uncooperative.

In this previously diagnosed group, 96.4% required insulin for satisfactory management, whereas only 56.6% were taking it at the time of their admission. There were 84.8% of these patients poorly or only fairly well controlled—now 96.2% are well or fairly well controlled. The criteria for control used, are as follows: Poor—average fasting blood sugar above 150 mgm.; fair—fasting blood su-

TABLE 3.

## AGE DISTRIBUTION and INSULIN REQUIRED AFTER STANDARDIZATION.

GROUP		Number of Patients	%	Average Daily Units	Insulin Daily	Insulin Plus Regular	GRADE					
							MILD	MODERATE	SEVERE	Number	%	Number
1	7 to 30 yrs. of Age	14	17.3				1	7.1	5	35.7	8	57.1
	Uncomplicated	11	78.5	59.7	72.1	212.8	1	9	5	45.4	5	45.4
2	31 to 50 yrs. of Age	29	35.8				10	34.4	10	34.4	9	31.
	Uncomplicated	23		32.4	100.0	0	10	43.3	10	43.3	3	13
3	51 to 84 yrs. of Age	38	46.9				13	34.1	19	50.	6	15.7
	No Major Complications	37		31.8	100.0	0	13	35.1	19	51.3	5	13.7



gars below 130 with only an occasional finding of sugar in the urine. These patients were all required to test their urine for sugar 3-4 times daily for at least three successive days a week, and have a blood sugar determination, once a week to once every three weeks.

Table 3 shows the age, distribution, and the severity of the diabetes of each group. Forty-five per cent of those individuals below the age of 30 in which there were no major complications were severe cases, while only 15.7% of these above 50 years of age had severe uncomplicated diabetes. The grades were determined as follows: (1) Mild—requiring less than 30 units of insulin daily. (2) Moderate—requiring between 30 to 50 units daily, and (3) Severe—all those requiring more than 50 units daily.

There were 34 or 42% of cases which had major complications present on admission; most all of these were uncontrolled cases. During the period of observation and control of their diabetes, only one leg ulcer developed, and only one case of coma. This coma followed an attack of kidney colic, and intravenous and retrograde pyelograms. Severe hypoglycemia, requiring administration of intravenous glucose, occurred three times. Major surgery was done successfully in 5 cases, one patient died following an unsuccessful attempt to remove a stone in the common bile duct. Three patients died of tuberculosis, two of these had tubercular meningitis; one developed marked tissue atrophy in legs and arms at the site of insulin injections.

During the period covered by this analysis, only two cases have developed significant complications, which were related to their diabetes. All the complications existing on admission have been cured or improved except as stated above and one patient that died of heart failure and nephritis. The cases of ulceration and gangrene with or without infection present on admission, have been healed and, in no case has an amputation been done.

One hundred per cent of the uncomplicated cases above 30 years of age were well controlled by one dose of protamine-zinc-insulin daily. Seventy-two and seven-tenths (72.7%) per cent of those below 30 years of age were controlled by one dose of protamine-zinc-insulin daily. Many of the cases with less serious complications were also controlled

by one dose daily. The average daily dose of insulin of the young group was 59.7 units, ranging from 15 to 140 units; 32 units for each of the middle age and elderly group.

The above analysis emphasizes the need for wider application of our knowledge about diabetes. The reason that some physicians neglect this disease is probably because they do not care to spend the necessary time educating and training these patients and, secondly, because they do not take the time off to brush up their own knowledge. I would wager that most physicians know more about the use of sulfanilamide than they do about the use of insulin. Physicians should learn more about diabetes, because more can be done in the prolonging of life and in the reduction of morbidity in patients with diabetes mellitus than can be accomplished for the majority of surgical patients, yet a physician does not attempt a surgical procedure without full knowledge of it.

#### SUMMARY AND CONCLUSIONS

1. Diabetes mellitus is diagrammatically presented as a set of balances.
2. The diagnosis, regulation and management of diabetes mellitus is briefly discussed.
3. The advantages and disadvantages of protamine-zinc-insulin are discussed.
4. An analysis of 81 cases of diabetes is presented which shows that there is a need for a more thorough understanding of diabetes mellitus and its management.
5. The advantages in the use of protamine-zinc-insulin are much greater than the disadvantages.
6. Almost all cases of uncomplicated diabetes mellitus have been successfully controlled by using protamine-zinc-insulin once daily.

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## Angina Pectoris and Its Masquerades

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**T**YPICAL cases of angina pectoris are generally easily recognized but there remain many borderline cases that have been confusing to most of us.

Paul White<sup>1</sup> says that angina is to be diagnosed just as did Heberden 150 years ago. This is to say by the history of substernal oppression with or

without radiation to either arm or to both arms, usually induced by effort, especially after eating and in cold air, lasting a few minutes and relieved quickly by standing or sitting, more quickly by nitrite therapy.

Riseman and Brown<sup>2</sup> have laid down the following rules:

1. Onset sudden in attacks.
2. Duration short, usually a few seconds, but less than 15 minutes.

Read before New Mexico Medical Society, Gallup, May 11-13, 1939.

3. Symptoms difficult to describe, pain, pressure, squeezing, choking.

4. Region involved, and anterior chest, including the epigastrium and the inner aspect of the arms. Radiation important if occurs.

5. Attacks precipitated by exertion, especially climbing stairs or walking in the cold. Their observations were made largely on induced attacks with a 2 step stair climbing device.

It will be noted that fear of death is not mentioned above. This is very interesting because it is quite generally believed to be an essential feature of the attacks. In my experience it is rare. I believe, however, that fear is never absent in those troublesome cases that have been called "false" or "mock" angina. Furthermore, fear is the parent of cardiac neuroses and so-called neurocirculatory asthenia. The one effective cure for all these masquerades of true heart pain is barrishment of fear.

The picture of angina is clear cut if we exclude all cases not conforming to the above data.

The sensory nerves of the heart do not differ in any way from other sensory nerves, but they are much fewer in number and sensations conveyed by them are different because these nerves are not reacted on by the same stimuli as those from the skin, bones, fascia, etc., and generally do not rise into consciousness. The anginal pain is partly modified by referred pains, but on the whole its peculiar features and spread are dominated by the sympathetic nerve sensations from the heart which give to the chest pains of angina their unique and diagnostic features.

Spinal nerve root pains are entirely different. They are definitely described by the patient and their course more accurately pointed out. They generally go from back to front. They are never felt deep in the anterior midchest like anginal pains. Examples are herpes zoster, spinal root neuroma, pains from spinal arthritis or fracture, cervical rib, or tabes. The pains of angina pectoris are said not to be felt in the back<sup>3</sup> except rarely close to the spine high up between the shoulders, but there are exceptions. Anginal pains are rare in the sides of the chest. They are confined to the front under the sternum and generally near to it. The pain may spread to the axilla or neck, jaws or roof of the mouth. Anginal pains cannot be excited by passive movements of the arms or by twisting the neck, or lateral movements of the head or pressing over the sites of bursae. The confusion by the patient and doctor of the pains just considered and the picture caused by the play of fear and emotions on the sympathetic system causes most of our diagnostic troubles.

#### TYPICAL ANGINA

CASE I. Mexican trainman. Age 55 years. For 2 or 3 months he has been complaining of frequent attacks of pain starting under the midsternum going upward and across to both anterior axillary folds and shoulders and down the arms to the fingers. The distress is great and almost unbearable. The attacks start suddenly on stairs or walking less than a block, and sexual relations are impos-

sible. Generally, the pain stops at once on rest but may last 5 or 10 minutes. The arms feel as though corded above the elbows but the hands never get cold. Cold air may precipitate an attack.

This sense of constriction in the arms, I believe, is a referred sensation from coronary spasm. The daily frequency of the attacks and the severe pain in both arms indicate a severe and dangerous type of angina. He has no arthritis, neuritis or other source of pain.

#### TYPICAL CARDIOPHOBIA

CASE II. Oil operator, age 39 years. Has attacks of pain generally starting high up to the left of the sternum. Sometimes lower, near the epigastrium, going to the axilla and shoulder and down the arms to the elbow. It is generally a steady ache like rheumatism and may continue for six hours. It sometimes starts suddenly and stops in 10 or 15 minutes on resting. The pain has never been unbearable. Never brought on by walking, climbing stairs or sexual indulgence.

He apparently fears angina pectoris because a brother, aged 39, who had "rheumatism" in his left arm, died suddenly, after being butted by a bull over the heart, with symptoms like angina. Unfortunately, his fears have been shared by his medical attendants who have told him that he might drop dead at any time. He is steadily getting worse and has frequent daily attacks.

Every pain following the pattern of angina is not due to the heart. His attacks last too long for angina and are not precipitated by exercise. The whole picture is that of a fear complex and when he is convinced that he has nothing to be afraid of, he will be better. I only told him this after a very complete history and physical examination including an electrocardiogram and fluoroscopy, all showing normal conditions. Exactly what may happen at some future date is impossible to say.

#### RAPIDLY FATAL ANGINA

CASE III. Aged 44. Bridge construction foreman. Was seen 11/14/38. In good health until three weeks ago when he began having spells of hurting in the mid-chest going up under the sternum to Adam's apple where it feels like a lick, the pain being so severe. He almost loses consciousness and gets wet with sweat. In the day it is brought on by exertion but it is just as bad when it awakens him at night. For two nights it recurred all night at 20 or 30 minute intervals and was continuous for nearly an hour. Nitroglycerin generally gave immediate relief. Pain is not worse right after eating but only after three hours or more. Very heavy eater. Was better on a very restricted diet but would return to his old habits with prompt relapse.

He had syphilis 20 years ago but was continuously and thoroughly treated for three years and all tests became negative.

X-ray examination showed an aorta of normal width and density and the EKG was normal.

11/26/38, he came home jovial and well, had a sudden attack almost immediately, fell to the floor



in a convulsion and died instantly. Probably from ventricular fibrillation.

Here we have a plain picture of angina uncomplicated by other symptoms. The pain only getting worse three hours after eating may be easily explained by food allergy, a delayed reaction. Sweating is an important differential symptom because it points definitely to visceral nerve pain. Syphilis cannot be excluded as a cause but seems quite unlikely because x-ray showed a normal aorta, but unfortunately, the root of the aorta is always hidden by the auricles and is hard to visualize on x-ray examination.

The description of the pain as like a blow or lick sounds queer, but this is the language of his occupation. I believe that this man's life might have been saved by strict control as to rest and diet.

#### ANGINA, ATYPICAL

CASE IV. A nurse. Aged 66. Was seen 8 years ago and several times later. She complained of attacks of pain right in the heart and mid-chest, going to the left shoulder and down the arm. The pain starts as quick as one can snap a finger and is so bad that she cannot move, speak or breathe. It feels like cutting with a knife. It commonly starts when sweeping or washing dishes. She has had similar attacks for 30 years, at varying intervals. They generally come when she is over-worked and tired out. The duration is generally but a few minutes.

Are the attacks true angina pectoris?

Her blood pressure is 170/80. The pain of angina is occasionally described as cutting. Her attacks began at 36 years of age. This is about 10 years early for a woman, and women have it only one-third as often as men. However, of 145 cases carefully studied there were 5 under 40 and of these, two were women.

Naturally, housework, such as washing dishes, kneading bread, sweeping and the like, are quite commonly mentioned as bringing on the pain in women. The long duration of her angina throws doubt on the diagnosis. She is not hysterical, has no neuritis, arthritis or other source of pain. Certainly at her age it would be hazardous to say her attacks are not angina.

#### "MOCK" ANGINA

CASE V. Mrs. X. Aged 34. Seen in 1930 and for several years subsequently. Following worry, fright or overwork she has spells with her heart which begin with a pain as though she has been hit in the epigastrium. This pain goes up over the heart and to the left shoulder and midscapular region and down the whole left arm. The pain seems to be inside the chest. The first symptoms is lack of air and the chest feels as though it would burst. After the attacks, she vomits. So far we have a fairly good picture of angina pectoris and she has been told that she has genuine angina pectoris and that she might die if she moves when the pain is on.

But this is not the whole story. She says she is a nervous wreck and has dizzy and fainting spells and in some of her heart attacks she is unconscious

for hours. At one time she had an abdominal pain and other symptoms and was examined thoroughly including x-ray, and was told that she had gastric ulcer, gallstones, fixation of the appendix, TB of the fallopian tubes and that she would need several operations to cure her. It finally was found that she was three months pregnant, and with that explanation, all her symptoms disappeared.

Comment: The physician was a well trained heart man in charge of the heart work in a large hospital. So I think this case may be of some general interest. In this case there are other findings that throw doubt on such a diagnosis, at least so far as the seriousness of the situation is concerned. Here coma followed the attacks and all the attacks do not follow the same pattern. Coma is not a symptom of true angina, neither are fainting or dizziness. In angina all the attacks as a rule follow quite closely the same pattern. Fear or strong emotion in themselves react violently on the sympathetic system, with at times heart symptoms simulating angina. None of my cases of this type in women have died in an attack. This woman's attacks belong to the type where fear comes first and then the angina-like syndrome follows. Her first symptoms is lack of air which indicates fear. They are a class to themselves and cannot be fitted into the text-book definition of true Heberden angina. Perhaps some day they will form a special group all to themselves. I always give a good prognosis in this group.

#### ANGINAL ATTACKS FOLLOWED BY ACUTE CORONARY OBSTRUCTION

CASE VI. An intelligent woman of 54 years, while working in her yard was suddenly seized with excruciating pain in the epigastrium, going up under the sternum in the midchest. The pain felt deep in and like a burning with gasoline. There was a sense of constriction. She fell to the ground and had to be carried into the house. On account of her long history of queer spells and complaints, she was thought to be hysterical. Repeated injections of morphine gave no relief. There was persistent and uncontrollable vomiting and intestinal obstruction was suspected. Duodenal drainage was instituted and the fluid returned was a little bit bloody. There was slight fever. After about 10 days, she was much better and returned home. In a few days she complained of severe pain in her left leg, but on account of her previous long history of a multiplicity of mysterious symptoms it was given little attention. Later the leg became gangrenous and amputation was done.

Her dramatic description of the pain in her chest was not fanciful, as I can testify from personal experience. There was a sense of severe constriction and the pain was persistent. These facts and the embolism that followed point definitely to acute coronary obstruction which was confirmed by an electrocardiogram. She had the best of attendants and consultants and there can be no criticism. The only lesson is that in the fog and confusion of a multiplicity of functional complaints, there may

be hidden a serious heart attack. She had anginal attacks before her coronary obstruction and still has them.

#### FEAR COMPLEX

**CASE VII.** An intelligent and sensible woman, aged 54, was seen in November, 1937. She had recently been playing in a golf tournament for 5 days, following which she had heart attacks on the four nights following a golf tournament. The first attack came on suddenly with pain in the epigastrium and then around under the left breast and finally to the axilla and down the left arm on the ulnar side. There was a good deal of dyspnoea which indicates fear. Two hypodermics in an hour did not quiet her. In the three other attacks, all at night, the pain went from the epigastrium around under the left breast and to back and under the shoulder blade. Nitroglycerin did no good. One attack lasted three hours. Blood pressure 112/80. She was in a great state of fear because a sister had recently died suddenly of a heart attack. No pain was ever brought on by effort.

She had arthritis a few months before these heart attacks. She had a basal metabolism test which was low and her arthritis got better on thyroid. She is allergic to many foods and feels better when on a limited diet.

In a woman of 54, angina must be seriously considered. But the pain lasted too long, once up to three hours and never less than an hour. There was no coronary obstruction because she always felt well next day. Pain that starts in the epigastrium and goes around under the breast and to the back, is due to spinal root irritation. Pain under the shoulder blade does not go with angina. The only back pain that sometimes is present in angina is said to be confined to a narrow strip over the second and third and fourth dorsal spines. The fact that in one attack the pain went to the axilla and down the ulnar side of the left arm suggests angina. But is to be noted that the pain did not go up the sternal line but around under the left breast.

Fear alone will cause such a picture, and she admits great fear as the precipitating cause of her attacks. On my record I have a question mark following angina. It hardly makes good sense to make a diagnosis of angina in her case when we consider the whole picture. I gave her vitamin B and no more attacks have occurred. Assurance that it was not angina alone might have done as well.

#### COMMENT

Angina pectoris rests upon definite pathology, coronary sclerosis and sensitization of the heart area whence comes the pain. If acute coronary obstruction supervenes it takes on the same pain pattern as did the angina. Afterward the angina may never return because the irritable focus from which it arose has been destroyed. True angina speaks plainly the language of the heart and with it referred pain plays only a minor role. Fear is rarely a symptom and rarely starts the attack but only appears after the pain is so severe as to excite alarm.

In "mock" angina it is just the contrary. There is no or very little cardiac pathology. Fear and expectant attention dominate the scene. There is always some disturbance outside the heart that excites fear. It may be intercostal neuralgia, the pain of spinal arthritis, plural adhesions, bursitis, myalgia or herpes zoster that are distorted by an overwrought imagination as coming from the heart. At times the masquerade follows so closely the heart pattern of angina as to be quite deceptive. That is why a careful history is so important as was brought out in cases just recited. But again let me repeat, no fear to start the attack, no masquerade of other ailments as angina.

Roberts-Banner Bldg.

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## Case Specific Bacterial Vaccines

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I present a simple method of preparing vaccines specific for most of the organisms to the protein of which a person is sensitive. Vaccines of this type have been used by me on a considerable number of patients during the last 10 years. That they have efficacy seems to me established.

Since Sir Almroth E. Wright's discovery of opsonins and the administration of vaccines according to the opsonic index, I have been impressed that vaccine administration is sometimes of benefit; but often is of no apparent effect and occasionally even markedly harmful. The fact that inocula-

tions of dead bacteria do protect against certain diseases such as typhoid has been a basis for the assumption that they generally should have therapeutic value. Many reports have tended to establish the correctness of this theory. I read some 30 years ago of a case of "hay fever" supposedly cured by a bacterial vaccine. This report has been a stimulus to me for using vaccines in a variety of diseases these many years.

The tragic results from tuberculin as first used has ever suggested that vaccines are a two-edged sword—potentially harmful as well as useful. I have used tuberculin for many years and seemingly done much good with it.



## CASE REPORT

A case which had a tremendous influence in keeping me using vaccines in spite of numerous therapeutic failures from them was a young woman with retinitis—and a prognosis of blindness despite expert care. I took cultures from all available places of her body where bacteria might grow and from which their products might be absorbed. Many kinds of bacteria were grown and incorporated in a vaccine. This was before the day of skin-testing for sensitiveness except for the making of tuberculin tests.

The first small dose of the vaccine aggravated her retinitis—reducing her vision. The vision was a delicate index of the effects of the vaccine. Too large a dose reduced the vision; too small a dose was ineffective and the proper one plainly was beneficial. Gradually ascending doses of the properly diluted vaccine brought about a permanent cure; at least she has had no similar trouble during the past 18 years. This was undoubtedly a retinitis largely due to sensitiveness to bacterial protein, though relatively little of clinical allergy was known at that time and was not considered in this case.

## PROTEIN SENSITIZATION

In the use of vaccine sensitization to bacterial proteins and their relation to immunity must be considered.

It has been shown that animals desensitized to pneumococci protein required larger doses of the germs to kill them than did similar animals not desensitized. The same has been demonstrated in regard to tuberculosis and tuberculin sensitiveness.

Therefore, it would seem that administration of vaccines should be controlled by some test that indicates how sensitive the recipient is to them.

Certain physicians have argued that bacterial protein hypersensitiveness does not exist or causes little or no serious trouble. Three observations on food sensitiveness apparently applicable to bacteria indicate that human tissues become sensitive to bacterial proteins.

(1) Vegetable proteins are more prone, other factors being equal, of causing sensitizations than are animal proteins.

(2) If one eats excessive amounts of a protein, other factors being equal, he is more prone to become sensitive to it than if he eats sparingly and rarely of it.

(3) Food proteins which have undergone deterioration by autolysis fermentation or bacterial action, though far from being spoiled in the ordinary use of the word, are more prone, other factors being equal, to cause sensitizations than are the same food proteins in prime condition.

Bacteria belong to the vegetable kingdom; they are present in the human body from shortly after the beginning of extra-uterine existence, and they are often pocketed so that the protein has an excellent chance to undergo decomposition and be absorbed. All persons then have the best of opportunity to become sensitive to various bacterial proteins. During the course of one's life he acquires many types of bacteria; perhaps they even remain as permanent guests. Certainly the sensitiveness to many bacteria remains indefinitely in many persons.

I recall one woman who had continuous asthma for 25 years. She was skin tested to many proteins and reacted not even suggestively to any except pertussis protein. Pertussis vaccine in too large dosages always aggravated her asthma and in small doses gradually increased over many months effected a cure.

## AUTHOR'S THEORY AND EXPERIENCE

I offer the theory that bacteria once acquired may long remain with one after the disease they originally caused is overcome. The bacteria may undergo evolutionary changes so as to appear differently than they were originally. They probably are always much attenuated as far as producing the specific disease is concerned and may not be disease carriers. I presume they may be transferred to persons whose tissue may lack the immunity to keep them from producing their specific diseases. In the main, however, the bacteria I believe do little harm except to produce sensitiveness and the resultant asthma, eczema, rhinitis, indigestion, arthritis, etc.

It would seem, on first thought, that the best method of obtaining the bacteria which are causing trouble in a person's body, would be to make autogenous cultures from all places where bacteria exist. There are several objections to this procedure. In the first place the expense places it out of reach of many persons; then, too, some of the organisms do not grow readily upon the ordinary culture media and hence the essential germs may not be grown; those germs which are grown from a pocket may be so superficial that they are not the germs, even of that place, which cause the trouble. My first effort to find the organisms to which a person was sensitive was to make autogenous vaccines and find to which of them a patient was sensitive. This was impractical also because when a vaccine was used up, a fresh supply could not be obtained.

Stock vaccines were next tried and generally have been found satisfactory. I now skin-test a patient against 1-10 dilutions of 25 or more vaccines of common organisms using two or three vaccines of each organism, no two from the same manufacturer. The tests consist of intradermal injections. Readings are made 30 minutes, 24 hours and perhaps 48 and 72 hours after the injections are given. The immediate reaction is a hive and blushing of the skin area about the injection, and the delayed reaction is redness and swelling.

From each of the patient's reactors .05 to 2.0 c.c. is transferred into a 15 to 20 c.c. of sterile normal saline. If a patient has been tested against house dusts, animal danders, orris root, pollens, etc., .05 c.c. of each of these may be added to the bacterial vaccine or they may be made up separately in one or more bottles as seems best. In the event that desired results are not obtained from these, autogenous vaccines are made; the patient is skin-tested to them and the reactors are added to the mixture of stock vaccines.

Treatment is begun by administering .05 c.c. of

the prepared vaccine or vaccines intra- and hypodermally usually into several sites on the forearm or lower thigh.

The injections are made partially intradermally in order to know the severity of the reactions. The forearm or lower thigh is selected for the injections to permit the toxin to travel a considerable area of lymphatics before reaching the blood stream. The theory is that a person may have bacterial foci already discharging too much toxin similar to that in the vaccine, into other lymphatics and probably also into the blood stream. Therefore, the tissues with rich blood supply are already likely to have had too much bacterial toxin.

I use this type of vaccine in various sensitizations and in persons with chronic bacterial disease who are not sufficiently benefited by the usual treatments. I recognize the hazard of reporting clinical results—especially in attributing them to certain features of a multiple therapy. The clinician must rely upon impressions more than upon statistical data. When the impressions of physicians and patients agree, the conclusion is probably safe. Most persons react to several of the stock vaccines. Occasionally the reactions are severe, giving a pronounced lymphangitis and occasionally lymphadenitis. The treatment dosage may be rapidly increased in some persons while in others great caution and much time is required to get the patients able to take even small doses without harm. In some cases, it has been practically impossible to increase the dose above a minimum amount. My presumption has been that such cases have hidden foci of infection.

The best results seem to have been in children

with various sensitization states. I use this vaccine in asthma, bronchitis, rhinitis, chronic coughs, rheumatism, deafness, and other conditions resistant to ordinary treatment. I do not know that its use has benefited arthritis or rheumatism. Excellent results have been obtained in asthma, urticaria, neuralgia, rhinitis, deafness, and chronic coughs. In combination with diet control it seems important in the treatment of most cases of asthma. One case of urticaria was slightly improved by eliminating from her diet all skin-reacting foods, and was cured, apparently by her vaccine. Another case of chronic duodenal ulcer was definitely improved by diet based on skin tests; the results from the vaccine, however, were more striking. Although I had no thought of its being a preventive vaccine for colds, most patients, if not all who have been given it for any length of time, have developed an immunity to colds not previously possessed by them. I could report many cases with seemingly good results, but I contend that it should be the seeming rationality and its specific method of preparation and use rather than my, and my patients, impressions which should recommend it.

#### SUMMARY

I report a method of preparing vaccines—specific for each case. One to 10 dilutions of 20 to 30 ordinary stock vaccines are used for skin testing. A small amount of each reactor is added to normal saline. Small doses of this mixture gradually increased over long periods are considered by me important in routine treatment of allergic conditions and occasionally achieve striking results, even in preventing colds.

Professional Bldg.

## Gastrosocopy as a Diagnostic Procedure

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FOR many years the medical profession has attempted to develop a method which would allow direct inspection of the interior of the stomach. As far back as 1868 Kussmaul<sup>1</sup> made the first attempt. The result of this attempt was disappointing because the electric lamp had not yet been invented and hence he could not provide adequate illumination. In 1881 Milulicz<sup>2</sup> performed what was probably the first successful gastrosocopy. Because of the optical difficulties which the procedure presented, together with the dangers involved in the use of the instrument, the development of gastrosocopic observation was slow. With the inauguration of roentgenology as a proved diagnostic procedure, there was undoubtedly less stimulus to overcome the difficulties which practical and successful gastrosocopic examinations demanded. However, because of the constant desire on the part of exacting workers to actually see the part of the anatomy involved in pathological processes, we find that at intervals improvements on the gastroscope were attempted. In 1911 Sussman<sup>3</sup>

used a combined flexible and rigid instrument, and in 1922 Schindler<sup>4</sup> used a rigid gastroscope which allowed excellent visualization of much of the interior of the stomach. It was not accepted as a routine procedure because, being a rigid instrument, the pyloric part of the stomach was often not visible. Further, because of its being a rigid tube, the procedure was not without danger, and hence the contraindications were many. The present perfected flexible gastroscope was introduced in 1932 by Wolf and Schindler. It has the diameter of an Ewald stomach tube through the flexible portion and is 8.5 mm. in diameter in the upper rigid part. It is 77 cm. long, including the rubber finger. The entire flexible portion is covered by two rubber tubes which form the channel through which air is injected, emerging through three small holes in the distal part. The optical system contains 26 hand-ground lenses. The objective may be had with the 50 and 85-degree angle of vision. The general use of this instrument was rather slow in its development in this country, but



it seems that it is now definitely assured of its proper place in the diagnostic armamentarium of the medical profession.

The examination may be carried out in the examiner's office; the instrumentation is not difficult, but correct interpretation is probably more difficult than in any other endoscopic procedure, and calls for adequate training in the study of normal as well as abnormal stomachs before the examiner's interpretation becomes of any great value.

#### INDICATIONS AND CONTRAINDICATIONS

The contraindications to the procedure seem to be constantly becoming less important, so that practically the only ones which the author observes are aneurysm, obstruction of the esophagus, and esophageal varices. If an Ewald stomach tube can be passed without difficulty it may be assumed that the gastroscope also can be introduced safely. Indication for gastroscopic examination are too numerous to mention in detail, but the principal ones shall be dealt with quite fully. Cases which have shown nothing abnormal by x-ray and which are apt to be considered by the physician to be one of that great group consisting of neurotics or constitutional inadequates may greatly profit by gastroscopic examination. Many of the cases may be suffering from one of the various types of chronic gastritis. Gastrosocopy is virtually the only means of diagnosing this distressing condition since radiologists in general agree with Berg,<sup>3</sup> who stated at the fifth International Congress of Radiology in Chicago that even careful study of the mucosal relief would often fail to indicate the presence of chronic gastritis. This disease entity has previously been a very indefinite thing. Many pathologists at various times thought they had found sections of gastric mucosa which demonstrated gastritic changes. In most instances, however, it was found to have been due to post mortem changes. Knud Faber<sup>1</sup> was the first to inject a 10 per cent solution of formalin directly into the abdominal cavity immediately following death, thus fixing the tissues and establishing the histological entity of gastritis. Gastrosocopy, together with pathological specimen study, has shown that gastritis is probably the most frequent cause of gastric disturbance. Henning<sup>5</sup> stated that because of the frequency of gastritis he believes no diagnostic work-up of the stomach to be complete without gastroscopic examination, and Gutzeit<sup>6</sup> has stated that in his clinic gastritis was observed twelve times as frequently as was duodenal ulcer.

Anyone who has followed patients who have undergone gastric surgery is familiar with the fact that frequently the patient is not relieved from distress, but, on the contrary, in some instances, has even more than before. In a gastroscopic study of this problem we found that the four principal morphological changes which may cause postoperative trouble following gastroenterostomy or gastric resection were the following:<sup>7</sup>

1. Recurrent or gastrojejunal ulcer. This con-

dition was long thought to be the only complication in the postoperative stomach.

2. Chronic gastritis. This is now thought to be by far the most frequent cause.

3. Erosions and irritation caused by silk sutures remaining from operation and which have cut through the mucous membrane.

4. Carcinoma which develops at the stoma; very rare. Gastrosocopists agree that chronic gastritis is a frequent and important cause of postoperative trouble, and thus gastroscopy becomes important not only in the differential diagnosis but also in an objective study of the conditions which will allow more intelligent management of the case.

#### VALUE OF GASTROSCOPY

It must be conceded that direct visual control of a lesion of the stomach is desirable. Since there is the possibility of a malignant change developing from gastric lesions the importance of direct inspection in the stomach may be greater than in some other cases. Although gastroscopy is probably not as valuable in the diagnosis of gastric ulcer as is x-ray—each method has its advantages in this respect—both Schindler<sup>8</sup> and Gutzeit have shown that healing of an ulcer can be better demonstrated by gastroscopy than by x-ray; that complete epithelialization may require as long as two months after refined x-ray compression has failed to visualize any abnormality. These facts coupled with the knowledge that gastroscopy alone can study the progress of gastritis makes it clear that gastroscopy is important in studying the progress of treatment as well as being able to objectively study the disease process. It is generally agreed today that gastritis has a definite causal relationship to carcinoma. Hurst<sup>9</sup> has shown that acidity was present in 75% of gastric cancer for years before the cancer developed. Two cases<sup>10</sup> were recently reported from the Mayo Clinic in which carcinoma developed from previously proved hypertrophic gastritis. In a report of these cases the following statement is made: "The conception that chronic gastritis is the soil in which cancer develops in a large percentage of cases, if finally accepted, will influence greatly the methods used in the prophylaxis and early diagnosis of cancer."

Gastrosocopy is of value in the differential diagnosis of gastric ulcer and carcinoma. While the accuracy of roentgenology is high, it is admitted that doubt exists concerning the true nature of many of these lesions, and it is only reasonable to feel that the more one knows concerning a given lesion the more accurate is his diagnosis likely to be. At the International Congress of Gastroenterology held in Paris in September, 1937, the question for consideration was early diagnosis of gastric cancer. Many speakers were enthusiastic about the value of gastroscopic examination in this respect. Schindler<sup>11</sup> states that there is reason to believe that a differential diagnosis between a benign and a malignant ulcer can be made much more easily by gastroscopy than by any other procedure. Other gastroscopists are not so sure that a correct differential diagnosis can be made in

such a high percentage of cases (Moutier, Rodger, Henning, Fredrich<sup>7</sup>). A controlled series of cases<sup>7</sup> for differential diagnosis was studied by Schindler and the author in 1936 with the conclusion that in this particular series gastroscopic examination gave more correct and detailed information concerning differential diagnosis than did roentgen examination. Very recently Schindler and Gold<sup>12</sup> have published a series of cases which again show this to be true. More controlled work will eventually determine the exact value of gastroscopy in differential diagnosis of benign and malignant lesions, but that it is of value can at this time be safely stated.

Gastroscopy offers valuable information concerning the operability of gastric lesions and thus tends to reduce the number of needless exploratory operations. It is reasonable to suppose that surgeons would welcome a method which would give the needed information without the operative risk. It is possible that gastroscopy will, to a large extent, fill this need. Nine<sup>7</sup> cases were studied in which the question of operability arose. The accuracy of gastroscopic examination in these cases in demonstrating the operability of the lesion was not only greater than was x-ray, but was, in fact, correct in every instance.

Undetermined bleeding points of the gastro-intestinal tract may have their origin in the stomach and may be found by gastroscopy when x-ray may have failed to visualize the cause. We have seen bleeding result from a lymphosarcoma unrecognized by x-ray, and in many cases have seen gastritis with hemorrhagic erosions to have been the cause. In addition to determining the source of the bleeding, adequate treatment may be initiated early in cases of hemorrhagic erosions, and since their relation to the etiology of ulcer may be close, it is probable that potential cases of ulcer may be aborted.<sup>13</sup>

In addition to the indications outlined we must consider its potential value in investigative work of stomach diseases in general. Since it allows direct visual study we may hope to arrive at an understanding of disease processes which will ultimately prove to be of great practical value.

#### SUMMARY

Gastroscopy is a safe, practical procedure for use in gastric diagnosis in the hands of one who has had adequate training in the correct interpretation of normal and subnormal stomachs. In no way does it replace or make less essential roentgen examination of the stomach; the two procedures supplement one another. The main indications for gastroscopy include those cases in which x-ray and other diagnostic procedures are negative, but in which symptoms persist. Gastritis which is seldom visualized by x-ray may be present or a gastric lesion may be seen which x-ray failed to show. Cases which have persisting distress after surgery should be gastroscopied. Gastroscopy offers valuable information concerning the differential diagnosis between benign and malignant lesions of the

stomach. Operability of a gastric lesion may be determined more correctly than by x-ray and certainly more correctly by x-ray and gastroscopy than by either procedure alone. Cases suspected of having gastro-intestinal bleeding, the origin of which has not been found, should be gastroscopied, since lesions may be found which may previously have been missed by x-ray. Hemorrhagic erosions which are never visualized by x-ray may also be seen. Finally, we may add that the intimate objective study which direct visualization of the interior of the stomach allows has great potential value in the study of disease processes which may eventually result in a better understanding, and thus more correct management, of these diseases.

Mills Bldg.

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## A PROUDER PROFESSION

Obituary columns sometimes carry a note of inspiration to the living—not often do they comprise a full code of life. Read this excerpt from the Journal of the American Medical Association, issue of August 5, 1939:

Dr. William J. Mayo wrote, in part:

"Our father recognized certain definite social obligations. He believed that any man who had better opportunity than others; greater strength of mind, body, or character, owed something to those who had not been so provided; that is, that the important thing in life was not to accomplish for oneself alone, but for each to carry his share of collective responsibility. . . . The fund which we had built up and which had grown far beyond our expectations had come from the sick, and we believed that it ought to return to the sick in the form of advanced medical education, which would develop better-trained physicians, and to research to reduce the amount of sickness. . . . The people's money, of which we have been the moral custodians, is being irrevocably returned to the people from whom it came. . . . The practice of medicine in Rochester is carried on in the same manner as by other members of the regular medical profession throughout the state and nation. All classes of patients, without regard to race or creed, social or financial standing, receive necessary care without discrimination. . . ."

These words reflect the great character, the human kindness, the profound human sympathy that were the part of Dr. William James Mayo. It has been said that opportunity and great occasions make great men. Exception to this rule is present in the lives of Drs. William J. and Charles H. Mayo. They made a small village into one of the most notable medical centers of the world wholly through

a genius for surgery and for medical leadership. Throughout their careers they devoted themselves to the advancement of scientific medicine and of the medical profession which they served so nobly and which gloried so greatly in their achievements.

In 1906, when Dr. William J. Mayo read his presidential address to the American Medical Association, he forecast and considered some of the great problems that concern medical practice today. He attacked abuses of medical care by public service corporations and the abuse of medical charity by those able to pay. He condemned all attempts by those not trained in the science and art of medicine to dominate its functions. To the very end he contended for this point of view. And in a not written just a few days before his death, he urged continued work for the advancement and stabilization of medical science and the traditions of medical practice.

All the world pauses in the midst of its turmoil and stress to give him honor and to pay him in his death the tribute that is so justly his due—a great physician, a superb surgeon, a magnificent leader, a beloved man!

Every physician in America should be more proud than ever of his high calling. A mistress that begets sons of the calibre of William and Charles Mayo is truly worthy of worship.

## HALF-MEASURES

Public health reforms in a democracy are not very successful unless a large section of public opinion demands them. Think now of certain areas in the United States where smallpox is on the increase. Public opinion in those places has hampered instead of encouraged the medical authorities in their campaign of compulsory, universal vaccination. When we speak herein of public opinion we do not necessarily mean the militant convictions of a majority of the population. Realism directs that we understand the term to mean more often the articulate demands of small, compactly-led pressure groups. It often happens that a smartly directed minority of a minority is able to force its beliefs into the law, thereby making its own ideas ostensibly the convictions and will of the population at large. In a democracy that is the way things are done. If the ideas of the minority prove to be good in the experience of the majority they are adopted and retained by all. If these ideas come into increasing conflict with what the slowly-mobilized majority wishes, they are modified or discarded finally. This, too, is a democracy at work. All of which leads to the main thesis of the topic at hand.

Some time ago, a certain section of public opinion acquiescing, the United States Public Health Service inaugurated a highly publicized campaign against syphilis and gonorrhea. The usual propaganda weapons were brought into the fray—the daily press, the lay magazines, posters, speakers, preachers, the radio. Well and good, approves the man of medicine. It's pleasing to the physician to view the awakened interest of the public in the fight against these dread scourges. The physician approves because it is in his nature to hate all disease, because he regards it his paramount task to keep

his people well. But a growing section of opinion, both medical and lay, is asking if the venereal disease problem is really being faced squarely. "Get early treatment", "Recognize these early signs"—so say the public health workers. The Public Health Service has usually been more concerned with the prevention of disease than its cure. Why not in this instance? What better way to stamp out gonorrhea and syphilis than by preventing their occurrence?

Men and women still indulge in sexual intercourse. Much of this activity is extra-marital. From the "two-bit chippie" to the twenty-five dollar "call girl" to the "charity stuff" men seek an expression and gratification of the male urge. And here, in the courtesan's couch, is where most of the cases of venereal diseases are contracted. Now, it is manifestly impossible to legislate men out of women's beds. And it is likewise foolish to think that all possible is being done to stamp out venereal disease by attacking it after it has been contracted. So reason must say that its prevention must be accomplished. Since women won't keep their legs crossed, and since men will dally in the romantic clutches of Circe, why not teach them how to avoid the contraction of these venereal diseases?

Men in the Army and the Navy are taught the uses of the rubber condom, the virtues of calomel ointment, the desirability of plain hot water and soap post-dalliance. Now that it is fashionable to be in the know regarding venereal diseases and treatment thereof, why not complete the course in sex hygiene now being given the public? The intelligent use of mechanical and chemical prophylactic modalities would forthwith reduce the venereal disease rate immensely, and more important from an economic basis, put out the fire before it begins.

But a few well-organized minority pressure groups declare that wide dissemination of knowledge of prophylactics might lower the morals of the youth of the land, by presenting them gratis with the knowledge and means of avoiding pregnancy as well as disease in their relations sexually. Most any honest man can tell you that it isn't fear of anything whatsoever that leads the girls to say no. It happens rather to be something in their home training that helps them cool the hot desires of the moment. If anyone thinks that fear of pregnancy restrains the young unmarried girl from illicit intercourse, let him ponder the high rate of illegitimate births in this country, together with the extremely high number of criminal abortions done annually. No, an informed populace is not likely to use knowledge against its own interests.

Just as soon as the entire public awakens to the half-measures being employed in the battle against venereal disease today, just so surely there will be an undeniable demand for the completion of the program, i. e., the teaching of preventive methods. When that day comes, the wishful idealism of minorities must cease to be the law of the people. The medical profession must here, as elsewhere, follow the public demand.

## I'M A DOCTOR

I fit glasses in a jewelry store ,  
I'm a doctor.  
I make speeches by the score,  
I'm a doctor.  
I preach sermons that folks adore,  
I'm a doctor.  
I rub vertebrae that are awful sore,  
I'm a doctor.  
I teach philosophy never heard before,  
I'm a doctor.  
I treat corns that folks abhor,  
I'm a doctor.  
But when any illness threatens me  
I tell the good wife to call an M. D.<sup>1</sup>

The antics of the lesser clutchers on the fringes of medicine's skirts often provide amusement, which would be well enough if certain dangers were not inherent in these caperings.

Not long ago a sharp-tongued mother gave a local glass-fitter a twisty moment. The good "doctor" had been treating the daughter's inflamed eye with boric acid solution, it being capable of curing 90% of all eye troubles, he had assured the mother. The eye became worse, and one day the advice was given that a physician had better be consulted. "But you advertise yourself as a doctor!" says Mother. "Well, er, you see, etc., etc." And then the blistering our friend took! The daughter's iritis cleared up finally.

Then there was the case last year of one of the flowers of El Paso's quackdom being called into "consultation" regarding the woman with one pupil fixed and widely dilated. He labored his head and informed the family that a vertebra in the lower neck controlled the eyes, and since it was "subluxated" (delicious word), it would take a course of a few months' treatment to restore the peripatetic bonelet, thus fixing the eye. When the patient's money ran out she decided to visit her family physician. He is still treating her cerebro-spinal syphilis on credit. And the chiro quack just recently ran an advertisement in the daily papers about vision and eyes. Perhaps he learned something at that, from the case cited.

We wouldn't have liked being in the embarrassing predicament of another local claimer who came to the scene of a rather frightful automobile smash-up, and was pressed into service because of the insignia on his car resembling very closely that indicating a physician. After he fainted under the stimulus of the spilled blood, he had to falter, "I ain't no doctor, I'll try to get one in town."

There must be moments in the life of every pretender when he would give a large purse of gold to be quits of a situation where he is exposed for what he is. So perhaps the life of the deceiver isn't completely spent in a bed of thornless posies.

1. Journal Ark. Med. Soc.



*Special Section*  
**Arizona State Medical Association**

PRESTON T. BROWN, M. D., *Associate Editor*  
403 Professional Bldg., Phoenix, Arizona

## *The President's Column*

### LET'S WORK TOGETHER

THERE is herewith inaugurated the monthly issuance of the "*PRESIDENT'S COLUMN*" for the Arizona Section of *Southwestern Medicine*. This is something new for the *Association* in order to afford the *President* a medium for reaching the membership more often.

Members of the *Association* do not follow announcements and editorials in *The Journal* as closely as they should. It is hoped that the *President's Column* will aid in correcting this.

In a large measure the County Societies represent a cross section of the *Association*. To them belongs a good deal of credit for moulding the policies of the *Association*.

At times it seems that the County Societies are inclined to let up and lose interest in affairs of the parent society. Is it because the parent society has been able to cope with important medical problems efficiently, thereby creating a feeling of indifferent acquiescence? Is it because the County Societies are not aware of all the activities that are going on within the parent society? Is it because the County Medical Societies have too many local problems of their own which detract from interest in the *Association*? Let's find the answer and work together!

This is YOUR *Association*. The roster of membership is the largest in our history. Exercise your privileges as a member. Aid YOUR *Association*. This is part of YOUR duty as a doctor.

In all sincerity,

A handwritten signature in cursive script that reads "Geo. J. Smith M.D.".

President, Arizona State Medical Association.

## COMMUNICATIONS

Sir:

We have recently received a letter from Dr. Geo. W. Cox, Texas State Health Officer, regarding the use of vaccine for protection against yellow fever. Dr. Cox states:

"We are in receipt of a letter from the United States Public Health Service to the effect that vaccine is now available for protection against yellow fever.

Due to the fact that yellow fever is endemic in certain portions of South America, and with the increased airplane traffic it would not be unreasonable to expect an introduction of yellow fever into Texas.

This vaccine is available to be used in immunizing physicians, nurses, and other health workers in order that there may be an immunized health personnel able to take care of those who might have yellow fever.

The vaccine is administered in single injections, and in a great number of cases causes very little or no discomfort. In some cases you may expect a slight rise in temperature with some malaise on the seventh day.

I wish you would take this matter up with your County Medical Society and advise me the number of doses you will be able to use for your physicians, nurses, and health workers. When this information is received we will make a request for the vaccine and mail same to you to be administered by you or some physician who is a member of your County Medical Society."

Yours very truly,

JAMES J. GORMAN, M. D.,

President El Paso County  
Medical Society.

Dr. Milton Littell completed a post-graduate course in allergy at Harvard University this summer.

Dr. E. J. Cummins, of the El Paso Medical and Surgical Clinic, has announced the association of Dr. Norman Giere. Dr. Giere will head the department of gastro-enterology.

Drs. A. H. Black and M. P. Spearman addressed the recent convention of the West Texas Pharmaceutical Association in El Paso on "Personal Experiences with Vitamine Therapy in China" and "The Role of the Druggist in Scientific Medicine," respectively.

Dr. Lewis Breck has announced the association of Dr. Eugene W. Secord, formerly of the Mayo Clinic, in the practice of orthopedic surgery.

Dr. V. T. Webb has begun the practice of pediatrics in El Paso. Dr. Webb moved to El Paso from Arkansas.

Dr. Felix P. Miller has announced the association of Dr. Charles E. Webb in the practice of general surgery. Dr. Webb came to El Paso from John Sealey Hospital in Galveston, where he was house surgeon the past year.

A regular meeting of the Tumor Clinic was held Tuesday, August 22, 1939, at 1 p.m., at City-County Hospital. The program was as follows: (1) Carcinoma of bladder. (2) Tumor of tongue. (3) Hypernephroma. (4) Carcinoma of breast. (5) Adenoma of thyroid. (6) Tumor of breast and melanoma of back. Dr. J. W. Cathcart presided in the absence of Dr. L. M. Smith.

Dr. Wm. John Pangman has returned from a study tour of eastern clinics where he took further graduate work in plastic surgery.

## NEWS

### *El Paso*

A regular meeting of the Tumor Clinic was held Tuesday, July 25, 1939, at 1 p.m., at City-County Hospital. The program was as follows: (1) Tumor of right breast. (2) Tumor of right eye area. (3) Tumor of tongue. (4) Tumor of jaw bone. (5) Report on adeno-carcinoma of the pancreas.

A regular meeting of the Tumor Clinic was held Tuesday, August 8, 1939, at 1 p.m., at City-County Hospital. The program was as follows: (1) Cancer of the larynx. (2) Tumor of the jaw bone. (3) Cyst of the neck. (4) Osteogenic sarcoma of left pubic bone. (5) Osteogenic sarcoma of left knee. Dr. J. W. Cathcart presided in the absence of Dr. L. M. Smith.

## MISCELLANY

### CAUSES OF DIARRHOEA

#### (A) In Adults:

Primary diarrhoea: (1) Dietetic; (2) Constipation; (3) Changes of climate, or weather; (4) Irritants taken with food, e.g. mushrooms, mercury, arsenic, or ptomaine poisoning.

Alterations of intestinal secretion or absorption: (1), Acute and chronic dyspepsia (gastrogenous) pancreatogenous diarrhoea and cholecystitis; (2) idiopathic steatorrhoea (coeliac disease); (3) Sprue and hill diarrhoea; (4) Nervous diarrhoea.

Secondary diarrhoea (infective conditions): (1) Typhoid and paratyphoid fevers (Salmonella group); (2) Bacillary dysentery e.g. Shiga, Flexner, and Sonne infections; (3) Cholera; (4) Gaertner



and Aertrycke infections; (5) Amebiasis and amebic dysentery, balantidiasis, giardiasis, flagellate diarrhoea, coccidiosis, malarial dysentery, leishmanial dysentery; (6) Bilharziasis, fasciolopsis, heterophyes, and other worm infections.

General infections: Endocarditis, septicemia and pulmonary tuberculosis.

Diseases of intestines: (1) Carcinoma; (2) Tuberculosis; (3) Syphilis; (4) Actinomycosis; (5) Diverticulitis; (6) Chronic cicatrizing enteritis (Crohn's Disease); (7) Peritonitis; (8) Appendicitis; (9) Haemorrhoids.

Blood diseases: Henoch's and other forms of purpura.

Chronic circulatory disturbance: (1) Portal congestion; (2) Cirrhosis of liver; (3) Chronic heart and lung disease.

Toxic: (1) Hyperthyroidism (thyrotoxicosis); (2) Uraemia; (3) Lardaceous disease.

Avitaminosis: Pellagra and prepellagrous conditions.

Special types of diarrhoea: Ulcerative colitis; (2) Muco-membraneous colitis; (3) Polyposis; (4) Polypus; (5) Stercoral ulceration; (6) Foreign body in rectum.

#### (B) In Children:

Simple diarrhoea from chills and errors in diet;  
Acute gastro-enteritis; summer diarrhoea; bacillary dysentery—Shiga, Flexner, or Sonne infection.  
Amebic dysentery;  
Coeliac disease;  
Intussusception;  
Polypus.

—P. Manson-Bahr: the Dysenteric Disorders; London: Cascell & Co., Ltd.: 1939.

### THE RELATION OF TONSILLECTOMY AND POLIOMYELITIS

The precise route by which the poliomyelitis virus enters the human organism has not been definitely established. The most commonly accepted theory is that the virus enters through the nasal mucosa along the olfactory nerves and olfactory bulb to the central nervous system. Toomey and Harman contend that the portal of entry is from the intestinal tract along the sympathetic nerve fibers to the spinal cord. Epidemiologic and laboratory studies appear to confirm the nasal theory of entry.

In 1928 Ayer reported nine cases of poliomyelitis following tonsillectomy and adenoidectomy. In 1929 Aycock and Luther reported sixteen cases of poliomyelitis occurring shortly after the removal of the tonsils. Stillerman and Fischer recently report ten cases following tonsillectomy in 1935, and three cases in 1937. The author of this article has seen two cases of poliomyelitis in which the onset occurred within a week after tonsillectomies. In the reported cases in which the onset of poliomyelitis occurred shortly after removal of tonsils the majority were characterized by bulbar involvement.

It seems apparent that trauma to the tissues of the nasopharynx disposes to the entrance of the virus into the body. Fairbrother and Hurst have

demonstrated that the virus travels along the axis cylinders in the central nervous system. The nerves which supply the nasopharynx originate in the brain stem and this would seem to explain the high incidence of bulbar involvement following extirpation of the tonsils.

The frequency with which the onset of poliomyelitis follows the surgical removal of tonsils should discourage the procedure during the season when the disease occurs, and particularly when it is epidemic.—Jo. Iowa St. Med. Soc.

### DOCTOR IN COURT

We medical men have to do a lot of translating in our conversations with our patients and for the most part do it very nicely, I believe, but when we get on the witness stand we seem to lose all sense of relationship, and, instead of saying that a person has an inflammation of the inner lining of the heart, we prefer to say he has an "endocarditis". Of course, this sounds rather big at first, but what idea does it convey to the jury? Or we may say osteo-myelitis for bone inflammation; arteriosclerosis, for hardening of the arteries; pneumonitis instead of pneumonia; neuritis instead of an inflammation of the nerve; meningo-encephalitis instead of inflammation of the brain and membranes. Or instead of saying the small muscle that raises the upper eyelid, we prefer to say the levator palpebrae; or, the most inexcusable of all, instead of describing a small muscle that lifts the upper lip and opens the nostril in front, we call it, one of the smallest muscles in the body, by the unfortunate name of levator labii superioris alaeque nasi, and feel perfectly satisfied that we have acquitted ourselves nicely.—Va. Med. Mo.

### SYPHILIS AND PHIMOSIS

Chancres that occur under a phimotic prepuce may appear to offer a stumbling block to early diagnosis by darkfield examination. It is possible to feel, quite often, the button-like mass in the prepuce but this does not make a diagnosis. The satellite adenopathy is highly suggestive but it is not diagnostic. Since the serologic tests may be negative, dependence must be placed on the darkfield examination. To do a dorsal slit to expose the chancre is taking a great chance since considerable sloughing may occur with the resulting formation of unnecessary scar tissue.

Material for a darkfield may be obtained from one of the near-by enlarged glands. The gland to be used is held firmly between the thumb and forefinger of the left hand. Five to 10 minims of a saline solution are to be injected. A 21-gauge needle is inserted into the gland and the saline injected. Before suction is made the needle is moved around in the gland to traumatize it. Then, when suction is applied, the material entering the syringe is a mixture of saline and serum. Darkfield examination of this material is now made. This same procedure can be repeated for three successive days if nega-

tive results are encountered on the first and second examinations.

The treatment which follows the finding of *spirocheta pallida* works wonders as far as the healing of the chancre is concerned. When complete restitution to normal of the prepuce has occurred, circumcision should be considered.—*Jour. M.A.S.A.*

#### TESTIMONY BY OSTEOPATHS IN SUIT AGAINST M. D. IS RULED INCOMPETENT

Action of a trial court in withdrawing from the consideration of the jury the expert testimony of two osteopathic physicians in a mal-practice suit against a doctor of medicine was approved by the Court of Appeals of Lorain County in a recent decision, (O.A.R. 436). Syllabus of the Court's decision follows:

1. In an action against a physician for mal-practice, the propriety of his diagnosis and treatment is to be judged by the standard which physicians of the same school of medicine, in the same or a similar locality, employ in the exercise of ordinary care, skill and diligence.

2. In an action against a physician for mal-practice, the plaintiff may not, over objection, prove his case in chief by the expert opinion evidence of the defendant physician, where such defendant has been called for cross-examination under the provisions of Section 11497, General Code.

Quoting from the decision of the Court of Appeals: "The plaintiff, in his effort to establish the claimed negligent conduct of the defendant, offered as expert witnesses two doctors of the osteopathic school, each of whom testified as to the treatment which he would have accorded plaintiff had he been called to attend plaintiff.

"At the conclusion of the plaintiff's case in chief, upon motion of the defendant, all of the expert testimony of said osteopathic physicians was withdrawn from the consideration of the jury, for the reason that the evidence of said osteopaths did not indicate they possessed any knowledge whatsoever as to the standards of skill, care and diligence exercised by physicians and surgeons of the school of medicine to which the defendant belonged . . .

"From our reading of the record in this case we find no evidence from which the jury could determine the standard of care, skill and diligence by which the defendant's conduct was to be judged . . .

"The absence of such evidence justified the trial court in directing a verdict for the defendant. We find no error in the action of the trial court in withdrawing from the consideration of the jury the expert testimony of the osteopathic physicians."

—Ohio St. Med. J.

#### WHY MALE BIRTHS INCREASE AFTER WAR

A theory offering an explanation for the definite increase in the proportion of male births following a long war is summarized in the July issue of *Hygeia*, *The Health Magazine*, from an article in

the Statistical Bulletin of the Metropolitan Life Insurance Company.

The explanation says that when war breaks out the young male population is quickly drawn into service and that consequently the young women of the warring nations are largely prevented from bearing children, either through the absence of their husbands or because no young bachelors are at home for them to marry. With the return of the young men from the war there is a marked increase in marriages and births, and thus a large proportion of the parents are the younger adults. Since the ratio of males to females at birth is higher when the mothers are young, it is only natural that the ratio of males shows a decided rise after a war.

#### SINUS ROENTGENOGRAMS

Roentgen ray of the sinuses is not always dependable even when the best technic and interpretations are followed. It should be looked upon and used as a helpful laboratory aid and not as a complete diagnostic method. The reason for this is that films taken of atrophic cases of sinusitis are not unlike those taken of normal sinuses. Again there are many border-line cases that cannot be diagnosed without making use of clinical data as well. Every rhinologist should be as well versed in the interpretation of sinus films as he is in the interpretation of clinical data. Personal interpretation of sinus films correlated with case histories and clinical findings has convinced me that it is hazardous to venture a definite sinus opinion without enlisting x-ray help. Pathology of the frontal and maxillary cavities is much more readily demonstrated on sinus films than that of the ethmoids and sphenoids. Frequently the roentgen ray is worthless when a sphenoid diagnosis is concerned. However, it does give a good definition of the anatomy which is helpful if an operation is contemplated. Correct interpretation of ethmoidal films is exceedingly difficult. The exact position required, variations of the anatomical structures and the delicate pathology that may exist require unusual consideration.—*Va. Med. Mo.*

#### LENGTHY PAPERS NOT DESIRABLE

At a meeting of the Secretaries Conference, Illinois State Medical Society, a few years ago, Dr. Olin West, Secretary of the A.M.A., in discussing a paper dealing with the problems of publishing a medical journal said: "I recently heard of an incident in which a physician had written what was, in his opinion, a very splendid scientific paper, and sent it to the editor of a certain journal. The editor sent it back with a letter saying that while it contained some very excellent material, it was much too long, much too involved, and would not be read in its present form, and asked the writer to cut it down. He received in answer an insulting letter to the effect that the writer knew what he wanted to say and how to say it. Of course, he did not get very far with that. The editor told him, however, that he



was going to take the liberty of having the paper revised and would then submit it to him. He turned it over to a manuscript editor who reduced it by about half and it was then returned to the physician without any comment or any marks of identification. A telegram came back saying that this was the best paper on the subject the gentleman had ever read, adding, "You can throw mine in the waste basket." It was his own paper, properly edited, with some of his idiosyncrasies eliminated. The paper was published in its revised form and created a good deal of favorable comment.

The trials and tribulations of an editor, or any officer of any medical society, are great, as you all know.—*Ill. Med. Jo.*

### THE NUISANCE SUIT

The American people have become insurance-minded to the highest degree. There are very few either real or anticipated catastrophies that cannot be insured against, and there are very few of the events of life in which insurance benefits cannot play a part.

The fact that indemnity insurance is so prevalent, of course, makes for litigation—litigation based on real or fancied wrongs or injury to property or person.

Your Medical Advisory Committee divides malpractice litigation, in which we are particularly interested, under three general heads:

1. That due to a genuine injury committed by the defendant in the suit, to the person of the plaintiff.

When a real injury has been committed, the suit should be settled at once. There is nothing gained by a long, expensive trial. However, the facts must not be open to question and they must plainly show the defendant guilty of the alleged wrong doing.

2. A fancied wrong committed by the defendant to the body of the plaintiff.

The case of the fancied wrongful act is usually the one brought for large amounts. Here the facts in the case do not show any just cause for action and are based solely on the hopes, not so often of injuring the reputation of the physician involved, as on the wish to obtain money from the insurance company. These cases should be fought to the limit and every recourse in the courts exhausted before damages are paid.

3. The nuisance suit brought in the hope of obtaining either a small amount of money or nullification of the account owing for professional services.

A nuisance suit is an annoying attempt to vilify the good work of a physician by one who is of unscrupulous character, not only in his dealing with medical men, but in all his dealings in business and commercial life. Indemnifying insurance companies should not too readily compromise these cases. One settled in this way leads to other "trumped up" cases—a vicious circle for which all holders of insurance pay.

Insurance should in most so-called "malpractice cases" defend, not indemnify.—*Jour. M.S.M.S.*

## TRUTH ABOUT MEDICINES

### NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Refined and Concentrated Antipneumococcic Serum, Type I-Lederle (New and Nonofficial Remedies, 1939, p. 406). This product is also marketed in packages of one vial containing 20,000 units and one vial containing 50,000 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Antipneumococcic Serum, Refined and Concentrated, Type II (New and Nonofficial Remedies, 1939, p. 407). This product is also marketed in packages of one vial containing 20,000 units and one vial containing 50,000 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Bivalent Antipneumococcic Serum, Refined and Concentrated (New and Nonofficial Remedies, 1939, p. 409). This product is also marketed in packages of one vial containing 20,000 units and one vial containing 50,000 units. Lederle Laboratories, Pearl River, N. Y.

Antipneumococcus Serum, Types IV and VIII, Refined and Concentrated (New and Nonofficial Remedies, 1939, p. 411). This product is also marketed in packages of one vial containing 50,000 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Antipneumococcic Serum, Types V and VII, Refined and Concentrated (New and Nonofficial Remedies, 1939, p. 411). This product is also marketed in packages of one vial containing 50,000 units. Lederle Laboratories, Inc., Pearl River, N. Y.

Tetanus Toxoid, Alum Precipitated (Refined)-Gilliland (New and Nonofficial Remedies, 1939, p. 436). Marketed in packages of two 1 cc. and two 0.5 cc. vials each containing one immunization treatment and in packages of one 10 cc. vial and one 5 cc. vial each containing five immunization treatments. Gilliland Laboratories, Inc., Marietta, Pa.

Ampuls Caffeine with Sodium Benzoate, 2 cc. Each 2 cc. contains in sterile aqueous solution caffeine with sodium benzoate U.S.P. (New and Non-official Remedies, 1939, p. 154) 0.5 Gm. (7½ grains). Wm. S. Merrell Company, Cincinnati. (*J.A.M.A.*, Aug. 12, 1939, p. 595.)

An "Epilepsy Cure" Fraud.—The Bureau of Investigation reports that under the trade style of the Anli Company a Mr. and Mrs. Murray A. Shaw and a Mr. and Mrs. Benjamin Margolis of New York City sold through the mails a nostrum called the "Black and White Treatment" for epilepsy. In its written "guaranty" the company declared that its treatment contained "no poisons of any kind" or "habit-forming drugs," and "will not harm man, woman or child." Whereas the concern would have the public believe that its "cure" was a new one, the potent drug in it was phenobarbital (luminal) which was introduced to the medical profession for the treatment of epilepsy as long ago as 1912. The black tablets in the treatment were reported by government chemists to consist of sucrose, starch, blue dye and 0.63 grain of phenobarbital each; the white tablets were found to contain sucrose, starch, talc and 0.70 grain of phenobarbi-

tal each. On October 29, 1938, the Post Office Department issued a fraud order debaring the Anli outfit from further use of the mails. The Post Office Department presented medical evidence to show that phenobarbital can partially suppress convulsant symptoms due to excessive excitant stimuli to the motor mechanism of the brain but that these effects are merely temporary, since the drug does not remove the cause of epileptic or other convulsive fits or attacks; that it is not recognized as having the facility to "stop completely" all epileptic attacks in persons suffering from that disease as claimed by the Anli people, nor could they honestly represent that 94 per cent of all epilepsy victims would be cured of that disease by the product in question. Although the Anli concern claimed that its treatment contained no habit-forming drugs, the Post Office report pointed out that this claim was false, as phenobarbital is definitely recognized as a potent harmful narcotic, which is habit forming. The Post Office Department pointed out that by means of fraudulent representations the Anli concern was able to charge \$5 for sixty tablets containing an amount of phenobarbital that could be bought at a drug store for \$1. Further, it was shown that no physicians, chemists or pharmacists were employed by the concern. (J.A.M.A., Aug. 26, 1939, p. 875.)

Bromo-Seltzer. Under the dangerous drug section of the new Federal Food, Drug and Cosmetic Act, the Food and Drug Administration had initiated action against Bromo-Seltzer. Bromo-Seltzer, which is an acetanilid-bromide preparation, is alleged by the government to be misbranded "in that it is dangerous to health and because of the failure of the labeling to reveal facts material with respect to the consequences which may result from the use of the article and the failure to bear warnings against use in those pathological conditions, or by children where its use may be dangerous to health, or against unsafe dosage, or methods, or duration of administration, in such manner and form as are necessary for the protection of users." In its answer to the charges, the Emerson Drug Company denies that Bromo-Seltzer is dangerous. It states that it has been used for many years by millions of people without injurious results. The manufacturers have lately conducted a vigorous advertising campaign in what seems to be a woefully inadequate attempt to "build up" acetanilid without pointing out dangers that arise from its indiscriminate use. To provide a front of scientific plausibility, this exploitation utilizes a number of scientific studies which seem to have little or no bearing on the fundamental objections to Bromo-Seltzer. No doubt the Food and Drug Administration will present the scientific justification for the allegations in the stipulation. The case will be a test of what may be anticipated in the way of public protection from the new drug act. (J.A.M.A., June 3, 1939, p. 2292.)

## BOOK NOTES

VARICOSE VEINS. By A. Ochsner and H. Mahorner. Foreword by Rudolph Matas. Pp. 147. Illustrations 52. Cloth. The C. V. Mosby Co., St. Louis. 1939. Price \$3.00

In this concisely-written and well-illustrated monograph the authors have included practically all the recent information about varicose veins. Their own extensive researches in the field are summarized. Delving into history, they credit Brodie with first describing the test which bears Trendelenburg's name, and alter the name to Brodie-Trendelenburg. Anatomy is accurately described. Pathology and physiology are considered adequately though briefly.

In discussion of etiology, the importance of pregnancy is emphasized, as demonstrated in a series of 285 patients with varicose veins studied at Tulane University. Of 247 women in this group, 62.6% were pregnant.

The comparative tourniquet test devised by the authors is presented clearly. The test is made by tying a tourniquet at various levels about a patient's thigh, observing varicosities as he walks. If maximum improvement in the veins occurs with tourniquet around the upper third of the thigh, then the only source of retrograde flow of blood is through the main opening of the saphenous into the femoral vein. If improvement is more marked with a tourniquet at lower levels, then additional incompetence of valves is present in communicating veins between deep and superficial venous systems.

Various treatments are discussed without bias. Having conducted considerable research upon the sclerosing effect of various agents used for injecting veins, the authors prefer sodium morrhuate. Following injection alone, varicosities recurred in 60% of their patients. Best results, they conclude, are obtained by simultaneous ligation and injection of the internal saphenous vein—only 16% recurrences in their series. It is perhaps safe to suggest that publication of this treatise marks a swinging from exclusive injection treatment toward more logical treatment combining surgery with injection.

Conservative treatment during pregnancy is advocated.

Technique of injection and of operative procedures is accurately described, with illustrations.

A chapter on treatment of varicose ulcers is up-to-date in recommending skin grafts for difficult cases, but allows credit to such old methods as use of Unna's boot.

A comprehensive bibliography of 177 references is included. The book is thoroughly readable, a helpful addition to the library of anyone interested in varicose veins.—J. L. G.

POPULATION, RACE AND EUGENICS. Morris Siegel, M. D. Pp. 206. Cloth. \$3.00. Published by the Author, 546 Barton St., East Hamilton, Ontario, 1939.

This is a little book to tackle such a whale of a problem. Selected studies are quoted to substantiate



"the claim of many eugenic scholars that the decay and ultimate collapse of ancient cultures and empires could be traced to a differential birth-rate that was operating then, similar to the one existing now." It is pointed out that there is a correlation between the cultural intellectual abilities of parents and offsprings. It is noted that the more gifted segments of the population, that is, the professional, tend to have fewer children and thus tend to commit group suicide, all to the detriment of the race as a whole. Many suggestions are made for the curtailment of the birth rate in the less gifted classes and its concomitant stimulation in the more intellectual group. These suggestions follow the usual paths of sterilization of the so-called unfit by the state and subsidization of marriage among the intellectual classes. These projects, of course, depend on more active control of the marriage relationship by the state. It is interesting in a superficial way to comment that in those countries where such control is most in vogue that not only have individual rights been disturbed but in addition intellectual contributions from the "improved population" do not measure up at all with those brought to light in the Anglo-Saxon nations. So that one must still listen to these notions of the sociologists with a lifted eyebrow. Again, it would probably be pretty dull going if all the population were geniuses. The world still needs street-car conductors and garbage collectors as well as professorial deep thinkers.

—M. P. S.

LIFE AND LETTERS OF FIELDING H. GARRISON, by Solomon R. Kagan, M. D.; with an Introduction by Prof. James J. Walsh; The Medico-Historical Press, Boston, Masss. 1938.

Who is there who would not wish to know something of the man who could write that wonderful book "An Introduction to the History of Medicine!" And what a tribute to the modesty of the man in naming that comprehensive volume "An Introduction!"

Dr. Fielding Garrison came of an educated family; his father was a teacher of Greek and Latin and subsequently a lawyer. Little is said of the education of his mother, but she must have been a woman of considerable attainments as she was one of the founders of the "Daughters of the American Revolution". A sister was on the librarian staff of Army Medical Library, and was considered brilliant.

Dr. Garrison was born in Washington, D. C., and graduated from the Central High School in the D. C. and then spent a year studying music, in which he was exceedingly interested and had much talent; he continued to have great interest and entertainment from music throughout his life. He studied languages and mathematics at Johns Hopkins, being awarded an A. B. in 1890. He gained his M. D., to please his father, from the medical school of Georgetown University in Washington, D. C., in 1893. Clara Augusta Brown, whom he made Mrs. Garrison in 1909, was his inspiration, a loving companion and the mother of his three daughters. He had a taste of the practice of medicine while stationed at the Philippines with the army. In the main his activities were in library work and in writing. He became interested in this line of endeavor while a student. Dr. J. S. Billings, the great medical bibliographer, recognized Garrison's facility for this work and encouraged him in it. The great Army Medical Library—The Surgeon General's Library, as often designated—was where he spent most of his active career.

He wrote voluminously for publication. Had he

done none other than that referred to in the first paragraph of this review, his name his monument at least for medical men of the world, would have been perfect and enduring; the hundred and fifty to two hundred other publications from his pen are in the nature of a superclimax to a brilliant career. In addition to all these he was a prolific letter writer of the old-fashioned type. These accumulated letters are interesting reading and give a keen insight into the nature of the man. In one letter he says "Many are called but few get up", says the bellboy." In another letter we read "Eulogy of the living is apt to be construed as 'Taffy' by the non-eulogized, and the brief impersonal sketch . . . is safer and saner for the subject thereof, as in the case of the bridegroom at the chancel rail—the general humorous feeling, common to such occasions, that 'the worst is yet to come'." The reader has probably already guessed that this is from his reply to a friend who wished to tell the truth about him in some publication.

This volume is interesting reading about an interesting and truly great man. Read it!!—O. H. B.

MEDICAL CLIMATOLOGY, by Clarence A. Mills, Ph.D., M.D., Professor of Experimental Medicine, University of Cincinnati, VII. 300 Pp., 90 figures. Cloth. \$4.50. Springfield, Ill., Charles C. Thomas. 1939.

Certainly it has long been thought that climatic factors bore much influence on the health and growth of man. This book represents a fairly complete attempt to evaluate some of these various factors.

We of the Southwest have been engaged in extolling the virtue of our climate as a good place for man to get well and stay well. The author notes that "people living at low levels of energy and bodily vigor in regions of moist heat show little ability to throw off infections that once gain a foothold."

Tables show the low incidence of acute infectious diseases in the Southwest. One table presents very low figures for rheumatic heart disease in our territory, in comparison with the high rate in the North. In this connection, most Southwestern physicians declare that they almost never see rheumatic heart disease in children native to the Southwest.

Studies of temperature variability were made at Tucson and El Paso to compare with similar studies in Boston, New York, Baltimore and several other Eastern cities. These studies lean heavily in favor of our Southwest. It is shown that many diseases tend to set in during periods of excess temperature fluctuations. The inference is obvious. The author believes, that for certain ailments, patients should be advised to take up residence "near the Mexican border from El Paso west." He feels that this is the "choice region from a climatic standpoint in this country."

The book does not pretend to completeness, but it is a valuable contribution to a subject that has not received the attention due it. It is to be hoped that the author will find it expedient to study further, particularly in the Southwest, and present even more detail in a subsequent edition.—M. P. S.

MEDICAL JURISPRUDENCE AND TOXICOLOGY: By William D. McNally, A.B., M.D., Assistant Professor of Medicine and Lecturer in Toxicology, Rush Medical College, University of Chicago; Attending Toxicologist, Presbyterian Hospital; Attending Staff, St. Joseph's Hospital, Chicago. 386 pages with 23 illustrations. Philadelphia and London. W. B. Saunders Company. 1939. Cloth, \$3.75 net.

This book is "curt, clear, complete". It discusses in 386 pages everything the physician (except the toxicologist himself) will ever likely have cause to seek. It is very modern and in tune with the pres-

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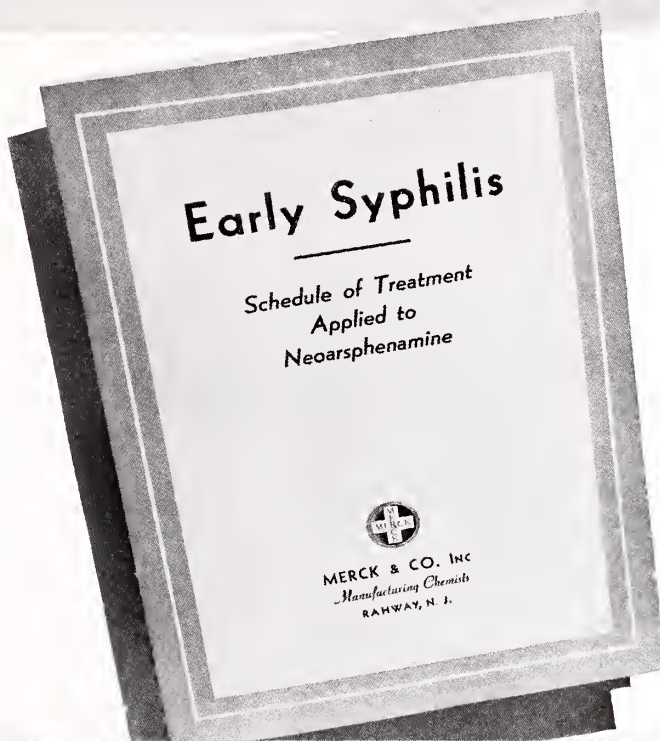
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ent. Excellent discussions of new and modern drugs such as sulfanilamide, amidopyrine, and others, are included. Tests for numerous drugs, together with a brief comment on their source, use, and fields in which they may be encountered. The sections on lead, mercury, and arsenic poisoning are very complete for a book of this size.

Silicosis, a "depression disease", so-called because it was seldom mentioned prior to 1939, has a good short chapter of its own. There is, too, a good chapter on ballistics.

In the jurisprudence section there is short but good information concerning the workman's compensation laws and industrial commissions.

The expert witness, who should be a court's counselor, but who often hinders rather than helps the court, is given some criticism. Especially is this directed toward those attorneys who are prone to use the same experts all the time, sometimes as witnesses for the defense, sometimes for the plaintiff's.

Not the least bit of good advice given is that for witness conduct. The rules are simple but outstanding. Their close scrutiny and practice will prevent many a physician from being made a jack-ass on the witness stand.—D. Von B.

**MENSTRUAL DISORDERS:** By C. Frederic Fluhman, B.A., M.D., C.M., Associate Professor of Obstetrics and Gynecology, Stanford University School of Medicine, San Francisco, California; Assistant Visiting Obstetrician and Gynecologist to Lane and Stanford University Hospitals; Fellow of the American Gynecological Society. 329 pages with 119 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$5.00 net.

In this book of 315 pages Dr. Fluhmann has presented a thorough study of the subject. The opening chapter presents a historical review of the con-

cepts of menstruation which is interesting and also the chapters on the study of the menstrual cycle and the comparative physiology of menstruation.

Probably the most beneficial information contained in this book is the complete information concerning the sex hormones and the endocrines associated with menstruation.

The commercial sex hormones available for use are described in detail and the trade names of the various products are given which greatly simplifies the problem for the busy practitioner.

In short, Dr. Fluhmann's work will be helpful in giving one a better understanding of the various menstrual disorders encountered.—R. F. T.

**A TEXTBOOK OF CLINICAL NEUROLOGY.** By Israel S. Wechsler, M.D., Professor of Clinical Neurology, Columbia University, New York; Neurologist, Mount Sinai Hospital; Attending Neurologist, The Montefiore Hospital, New York. Fourth edition, revised. Cloth. Pp. 844. with 162 illustrations. Price, \$7.00. Philadelphia and London: W. B. Saunders Company, 1939.

The author dedicates the fourth edition of his popular and authoritative book to the late Frederick Tilney, his former associate.

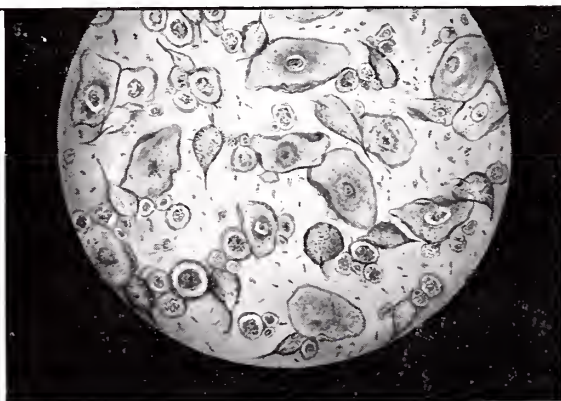
He has completely revised most of the third edition, which was published only four years ago. During that short interval there were many advances, particularly in the field of therapy, which necessitated revision. The chapter on neuritis, which is now considered as a neuropathy, has been rewritten. The importance of vitamin deficiency in the production of alcoholic and other forms of neuritis is emphasized and the treatment outlined.

The chapter on "The Epilepsies and the Convulsive or Parosyrmal State" contains much new material on diets and on dilantin and ephedrine therapy. In general, the anatomy, physiology and path-

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ology of disease entities have been subordinated to clinical findings and treatment. In the latter field this work is unexcelled. It is of great value to the student and general practitioner.

The author stresses the importance of a carefully taken history, and of methodical physical examination in making a neurological diagnosis. Several new entities are described, and worthwhile additions of therapy have been made in numerous instances.

It is an excellent book and should be in the library of every physician.—C. D. A.

**GASTROINTESTINAL DYSFUNCTION.** By Barton A. Reinhart, A. B., M. D., A. O. A.; Associate Professor of Roentgenology, University of Arkansas School of Medicine, etc., etc. With 48 plates. Little Rock, Ark., Central Printing Co. 1939.

The foreword says in part: "this book is dedicated to the proposition that nutritional deficiencies cause the majority of the gastro-intestinal diseases of civilization.

It has a good, even extensive bibliography. It has a good index.

One hates to condemn a brain child by saying only "to hell with it." That was my first thought after first reading; due partly, no doubt, to the poor arrangement of separating illustrative cases and plates (both very good) from their proper place in the text and from each other. Another reading, done only to be fair, led to a much more favorable conclusion. It is as hard to read as Gertrude Stein but with a lot more sense. There is not only food for thought in abundance but much valuable practical material for any branch of medicine with greatest worth to the gastro-enterologist.

He somewhat belabors his dedication but yet makes an adequate case for it.

The monograph style with frequent interruptions of smooth reading, the too, too frequent use of names in the text, the space taken with effects of animal experimentations might all be changed for the good of the volume and the pleasure and benefit of reading.

If one desires, however, to understand the influences which nutritional deficiencies may have on gastro-intestinal dysfunction, here's your book.

—P. G.

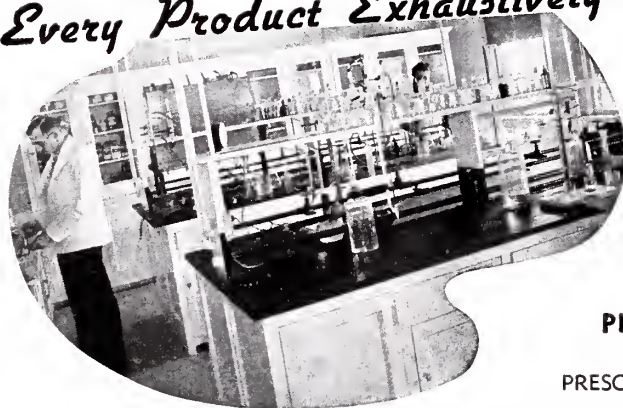
**FUNCTIONAL DISORDERS OF THE FOOT—THEIR DIAGNOSIS AND TREATMENT:** By Frank D. Dickson, M.R., F.A.C.S. (orthopedic surgeon St. Luke's, Kansas City General, and Wheatley Hospitals, Kansas City, Missouri; Providence Hospital, Kansas City, Kansas) and Rex L. Diveley, A.B., M.D., F.A.C.S. (orthopedic surgeon St. Luke's, Kansas City General Research, and Wheatley Hospitals, Kansas City, Missouri; Providence Hospital, Kansas City, Kansas). Cloth. Pp. 305, with 202 illustrations. J. B. Lippincott Company, Philadelphia, Montreal and London. 1939. Price, \$5.00.

The authors point out the widespread discomfort and disability arising from foot disorders—which nevertheless receive insufficient attention from the main body of medical men. This book proceeds to give a well illustrated outline of the foot with its aches and pains.

There is a brief discourse on the evolutionary development of the human foot which will be found interesting, though our Christians may deny any arboreal progenitors.

Anatomy of the foot with the associated structures to the knee is concisely presented. This is definitely good. Here, as always, illustrations speak volumes. Physiology and primary causes of foot

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gin of safety, ready solubility and high spirocheticidal activity.

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Iodobismithol with Saligenin is a propylene glycol solution containing 6 per cent sodium iodobismuthite, 12 per cent sodium iodide, and 4 per cent saligenin (a local anesthetic).

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unbalance are discussed. Method of examination, and the development of the foot as it progresses through childhood to adult life are discussed with reference to unbalance. The affections of the nails, skin, and bones, together with the referred constitutional diseases as affecting the feet, are each concisely handled.

Foot strapping, exercise and treatment complete a book that can well be recommended to both general practitioner and specialist.—W. J. P.

THE ROCKEFELLER FOUNDATION. Annual Report, 1938. Paper. Pp. 515, Illustrated. 49 West 49th St., New York. 1939.

This is an interesting, informative report on the work done for mankind by the Rockefeller Foundation in 1938. The Foundation appropriated a total of \$15,000,000 during the period named. The medical, social and natural sciences received \$10,600,000 in grants. Work was carried on in 42 countries of the world. However, 75% of the money given was used in the United States.

The world-wide scope of the activities of the Foundation provide fascinating material in their annual reports. And well does this volume demonstrate the fine things the Foundation has done for humanity—it is the account of the stewardship of the money belonging to mankind in general, held in trust by the Rockefellers for the time being.

—M. P. S.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1938. Cloth. Price, \$1.00. Pp. 120. Chicago: American Medical Association, 1939.

This volume contains examples of the various kinds of reports made by the Council on Pharmacy

and Chemistry: (1) preliminary reports; (2) supplemental reports on therapeutic or pharmacologic problems; (3) reports on the rejection of preparations offered for the Council's consideration.

Among the preliminary reports in this volume is one on Sulfapyridine, which carries a special article by Dr. Perrin H. Long. After the Food and Drug Administration had released the drug for the use of physicians early in 1939, the Council accepted vari-

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ous brands for inclusion in N. N. R. and in connection with the published descriptions issued another status report (J. A. M. A. 112:1830, May 6, 1939) based on a questionnaire sent to men who had been prominent in the experimental use of the drug. This report, no doubt, will appear in the next volume of reprinted Council reports. Other preliminary reports are the following: Allantoin, a preparation of glyoxyldiureid purposed to supersede the use of surgical maggots; and Sulfapyridine, published shortly before the Council acceptance of this new chemotherapeutic drug.

Among the reports of rejection the following are noteworthy: Collodaurum, a "colloidal gold" preparation, promoted with unwarranted, exaggerated and misleading claims for its use in the treatment of cancer; Dermo-G, stated to be a mixture of Spermaceti, White Wax, Oil of Sweet Almonds, Sodium Borate, Precipitated Sulphur and Water, an unscientific and superfluous mixture marketed under a therapeutically suggestive name with exaggerated, unwarranted claims; Fru-T-Lax, a needlessly complex and unscientific mixture advertised to the public under a misleading and inadequately descriptive name with claims which are unwarranted; and Hyposols Sulisocol, claimed to be "Sulphur Colloid" in 2 c.c. of "Autoisotonized Solution", exploited for use in arthritis with inadequate evidence of its therapeutic value. Other rejections are explained in the reports on Map and Myoston, Nupercainal—"Ciba", Pulvoids Sulfanilamide and Sodium Bicarbonate (The Drug Products Co., Inc.), Quinoliv, Sedormid, and Tri-Costivin.

**THE INFANT AND CHILD IN HEALTH AND DISEASE.** With Special Reference to Nursing Care. By John Zahorsky, A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics, St. Louis, Mo., and Elizabeth Noyes, R. N., Supervisor and Instructor of Pediatrics, Children's Hospital, San Francisco, Calif. Pp. 496. Illustrated. Cloth. \$3.00, St. Louis, The C. V. Mosby Co. 1939.

This is the second edition of a useful text on pediatric nursing. In the chapter on Growth and Development we note a highly reasonable statement "from time immemorial, educators and philosophers have written treatises on the education of children, and emphatic statements on methods permeate all, and these assertions are true—occasionally." Praises to the author, who must be a good father! Too many youngsters are spoiled in the making by well-meaning, book-learned authorities.

The book is comprehensive in its scope. All phases of pediatric nursing are dealt with. The chapters on the various childhood diseases are easy to read, are brief and to the point. Many valuable methods of handling the sick child are outlined. The book should be standard in all schools of nursing.

—M. P. S.

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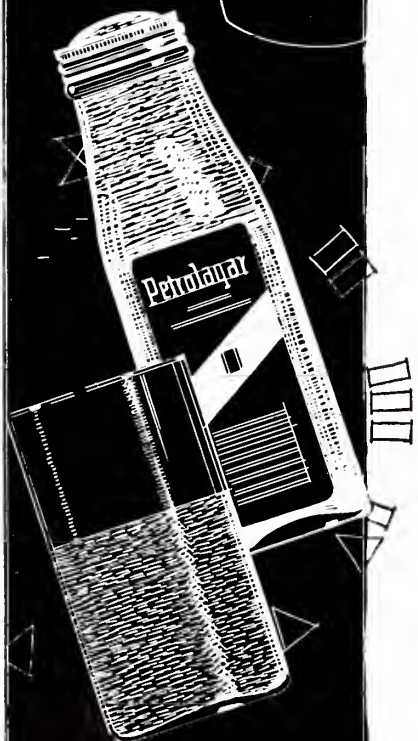
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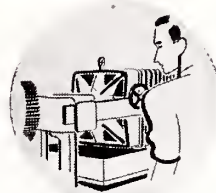
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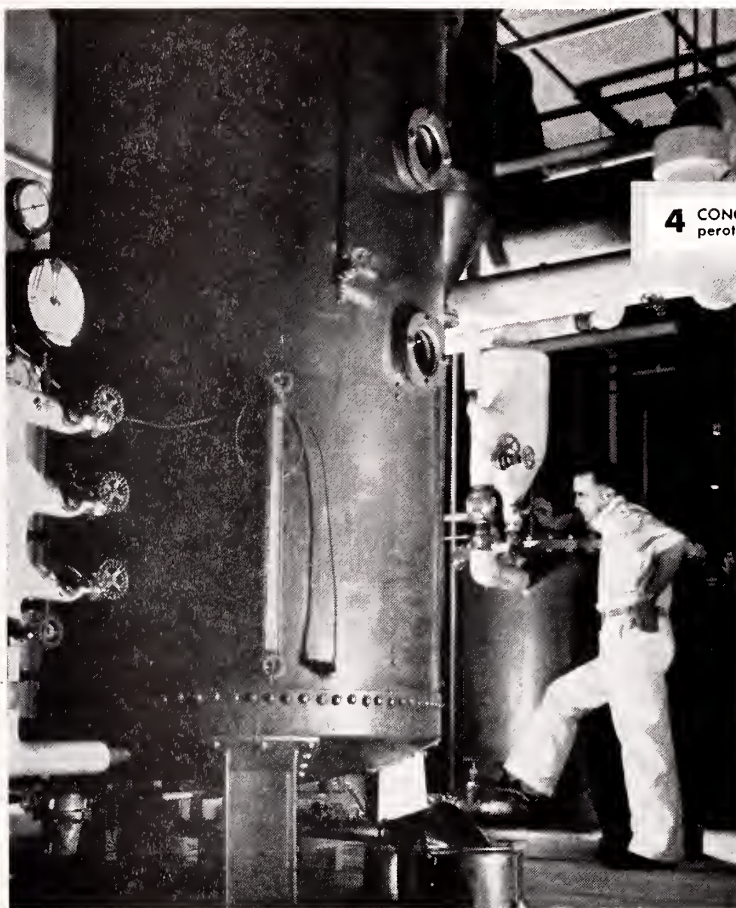
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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245 ☐

N. Y. State Jour. Med. 1935, 35-No. 11,590 ☐

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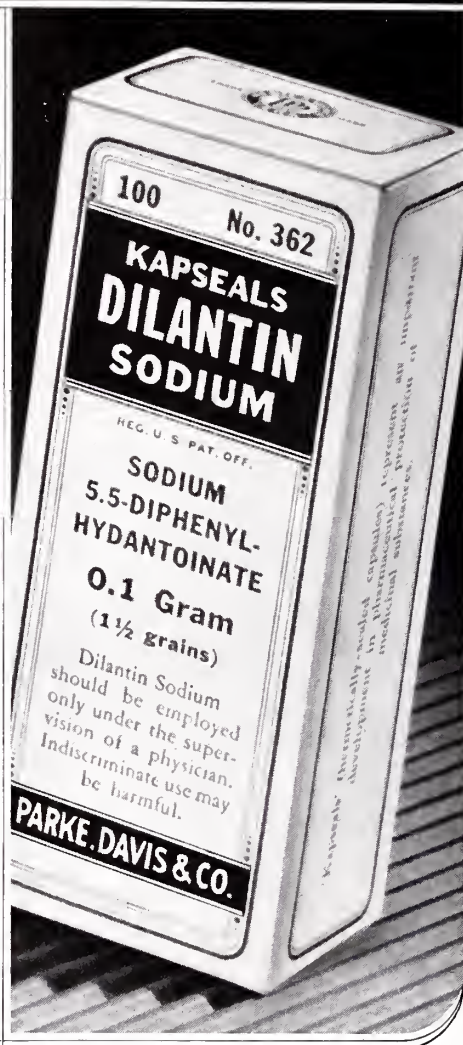


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\*Frazer, J. G.: *The Golden Bough*, vol. 1, New York, Macmillan & Co., 1928



It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

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## Carcinoma of the Colon

*(other than the rectum)*

E. PAYNE PALMER, M. D.

*Phoenix, Arizona*

APPROXIMATELY 70 per cent of all surgical lesions of the colon are malignant. The cecum and sigmoid are the most common sites of the tumors, and in the cecum the growth is usually found in the outer wall; frequently at the junction with the ascending colon. In the vast majority of cases malignant tumors of the colon are slow growing and metastasize late. Multiple primary carcinomas of the colon may occur; since they are not often recognized, the possibility of such multiplicity of lesions should be kept in mind.

Though malignant growths in the right colon are usually large, rarely do they lead to obstruction; on the other hand those of the left side are smaller, yet they tend to be obstructive. This is due to two factors:—the nature of the tumor, and the consistency of the intestinal contents. On the right side, the carcinoma does not usually encircle the bowel; rather it protrudes into its lumen, so that the liquid intestinal contents can readily pass it. On the left side, however, the tendency of the growth is to encircle the bowel, this together with the solid nature of the feces, leads to obstruction relatively early. The actual size of the tumor, if anything, bears an inverse relationship to its malignancy; increase in size apparently is evidence of a good resistance on the part of the patient to the disease.

All carcinomas involving the colon are primarily adenocarcinomas. There may be, however, considerable variation in their clinical manifestation; this depends upon the amount of connective tissue reaction or the epithelial growth. They may, however, be divided into three main types:—(1) Colloid adenocarcinoma in which there is an over production of gelatinous material; it is most frequently found in the cecum, and the tumor produced is a bulky mass showing little evidence of cellular elements. (2) A large ulcerating, fungating tumor with little evidence of obstruction. (3) A smaller tumor, characterized by an overproduction of fibrous tissue and resulting in cecatrictal contraction and early stenosis.

Lesions of the right half of the colon are relatively benign; they metastasize later than those of

the left colon. Extension to the liver occurs infrequently from lesions of the right half of the colon; it is not at all unusual, however, in the left-sided lesions. Metastasis may be carried to the liver by way of the portal vein.

Carcinoma of the colon may occur at any age; many authors having reported cases in early childhood. There are many authenticated cases which have occurred in persons between ten and thirty years of age with a notable increase during the fourth decade. Nevertheless this is found most often in patients over forty; its frequency increases in the later decades of life. Females are more often affected than males. The number of cases of carcinoma of the colon is growing at a steady rate. Autopsies have disclosed many cases which have remained undiagnosed, or even suspected, during life.

### ETIOLOGY

It is generally conceded that the etiology of the disease is unknown. There may be an inherited susceptibility to the disease, as carcinoma of the colon is not uncommon in members of the same family. The predisposition of patients with polyps of the colon to develop carcinoma is well known; in fact approximately 40 per cent of all carcinomas of the colon arise from polyps. In a recent report from Mayo Clinic carcinomatous changes were found in 62.5 per cent of the case of true adenomatous polyps, and in 25 per cent there were multiple carcinomas. In the pseudo-adenomatous polyps (56 per cent) carcinoma occurred in 21.9 per cent. Ewing considers chronic irritation arising at fixed points in the colon as an important etiological factor.

### DIAGNOSIS

The early diagnosis of carcinoma of the colon is best made by a continual remembrance of its possibility. Symptoms may begin at least five years before actual signs are apparent. One case is reported of symptoms being present for fifteen years before the diagnosis was made. The average time between the initial symptoms and the diagnosis is between seven and nine months. Though there are no pathognomonic symptoms, definite physical findings nor positive laboratory test for the disease in the early stage, yet a diagnosis can usually be made by means of a painstaking history,



a complete physical examination, and contrast roentgenograms of the colon.

There are a few characteristic early symptoms. The first warning is likely to be a slight alteration of a previously normal bowel function, an irregularity of the bowel habit, such as constipation or diarrhea, with alternating periods of constipation and diarrhea. There is usually a loss of appetite, strength, and weight, with varying degrees of anemia, depending on the location of the tumor. Increasing constipation of recent origin in an elderly person, only overcome by purgatives, suggests malignancy. Chronic diarrhea in an elderly person again frequently proves to be due to carcinoma of the colon.

In considering the specific symptoms of carcinoma of the colon it is essential to divide this into the right and the left halves. Those symptoms referable to the right side are mild digestive distress, distention of the abdomen, eructation of gas, borborygmus, pain and tenderness in the lower right abdomen, and later a palpable mass at the site of the growth. Anemia is a constant symptom; it may be profound. Certainly any profound anemia with a concomitant decrease in the entire blood picture, yet without visible loss of blood, should suggest carcinoma of the colon. Many such cases have been mistaken for pernicious anemia—a mistake that usually continues until all possibility of eradication of the malignant growth has passed. An exact explanation of this type of anemia cannot be given. It is thought to be due to a constant loss of blood from the ulcerating tumor, and to the absorption of perverted substances from the same region, producing septic intoxication.

In more than two-thirds of the cases, carcinoma of the cecum and ascending colon simulate chronic appendicitis. The pain and tenderness are without a tendency to lessen or disappear. Weakness is evident due to anemia; blood and mucus are usually present in the stool. The reaction of the tissue to the infection in the growth causes an elevation of temperature; here again it simulates appendiceal abscess.

Constipation is perhaps the most predominant complaint of patients who have malignant growths in the mid-colon, although the presence of blood in the stool and attacks of diarrhea are not infrequent. Such patients also have loss of appetite, strength, and weight; accompanying this are symptoms of disturbed digestion.

In carcinoma of the left half of the colon there is a disturbance of motor function, of persistent and increasing constipation in a patient who has previously had normal bowel habit. Continuous or intermittant diarrhea is common; increasing flatulency and borborygmus are frequent; the presence of blood in the stool is likewise a fairly constant occurrence. There is also discomfort and tenderness in the left side of the abdomen long before actual pain is experienced. Here again, there will be loss of appetite, strength, and weight with digestive disturbance.

Carcinoma of the distal colon does not produce anemia of the same degree as those of the proximal colon. As previously stated, the tendency of the growth to encircle the bowel on the left side, together with the solid nature of the feces, leads to obstruction relatively early. Before or when this occurs, visible peristalsis will then be observed. Approximately one-third of all carcinoma of the colon cause obstruction.

The possibility of the coexistence of an inflammatory and malignant lesion must not be forgotten. Carcinoma is not infrequently associated with diverticulitis of the colon. Volvulus and intussusception occur quite frequently as a complication of carcinoma of the colon.

Roentgenologic examination is the most satisfactory single diagnostic aid, and the opaque enema is by far the most accurate method. In this way the colon can be better filled and, therefore, better visualized. Following the introduction of barium into the bowel and the subsequent examination, the bowel should be emptied, inflated with air, and again examined. In this way, a small lesion can frequently be visualized that could not otherwise be detected. Roentgenograms reveal permanent filling defects that are almost pathognomonic of carcinoma; these localize the lesion and show its extent. It is most important to carry out repeated roentgen studies in doubtful cases.

#### PROGNOSIS

The prognosis of carcinoma of the colon must be guarded, for fully fifty per cent of the cases can be classified as inoperable from the standpoint of radical surgery. Most recurrences take place within the first year after operation. Late recurrences, which may take place after five years or more, make prognosis in any particular case very uncertain; yet in spite of these conditions more than half of the patients treated by radical surgery live comfortably for three or more years after operation. Since recurring carcinoma of the colon is not invariably hopeless, it should not be prognosticated as such.

The prognosis is most favorable in lesions of the cecum and ascending colon. This applies both to the immediate operative mortality and to the ultimate results. The immediate is due to the difference in the contents of the halves of the colon, since the fluid contents of the right segment are less septic than the more solid contents of the left. The end results is influenced by the type of the growth and by the lymphatic drainage. The immediate operative mortality varies with different surgeons; by tabulating reports from a number of clinics, one finds that a fair average is fifteen per cent for the right colon and twenty per cent for the left. A study of a large series of cases with right-sided lesions gave fifty-eight per cent alive five years or more after operation; those of the left side gave forty-eight per cent.

Age influences the prognosis of carcinoma of the colon. Clinical observations have proved many times that the younger the patient the more rapid

the growth and the more widespread the dissemination. The obese individual is a greater operative risk; he also has less chance of an ultimate cure. Marked anemia, commonly associated with the right segment of the colon, is not a contraindication to operation even though the hemoglobin concentration is as low as twenty-five to thirty per cent. On the other hand, anemia in patients with carcinoma of the left half of the colon is a distinct contraindication against resection until the condition has been corrected. In both instances an effort must be made to do this.

Carcinoma of the colon, however, offers better opportunity for cure than any other internal malignant growth; naturally a proper operation must be done within a reasonable time after the suggestive symptoms have developed. The experience of those who are treating carcinoma of the colon seems to be ample justification for optimism concerning its curability. Furthermore, with constantly improving methods of treatment, it has become possible to give relief to patients even when the disease has reached what was formerly considered the hopeless stage. Growth which were formerly considered inoperable because of size, or because of local attachments, are now operated upon and removed with splendid results. Multiple resections where the growth in the colon has become attached to the stomach, small intestine, uterus, or even the bladder, are occasionally necessary; today the survival rate from such operations and freedom from recurrences are quite reasonable. Adherence to the parietes, particularly the anterior or lateral abdominal wall, is no bar to successful surgical removal. The only definite contraindication to the removal of the growth is the presence of metastasis in the liver, distant and irremovable lymphatic involvement, and the presence of a growth in the pelvic floor.

Because of the ever-present colon bacillus the greatest danger in operations for carcinoma of the colon is from peritonitis. The employment of intraperitoneal vaccination with colon bacilli and streptococci as a routine in an effort to immunize against peritonitis, has given most gratifying results. For the past five years I have been using Coli-Bactragen, prepared under the direction of Bernard Steinberg, as a protection against peritonitis; this insures satisfactory protection against all of the usual peritoneum infesting bacteria (except tubercle bacillus) because the protecting mechanism is dependent upon nonspecific phagocytosis.

At the time of the operation, just before the closure of the abdominal wall twenty-five c.c. Coli-Bactragen, warmed to body temperature, is introduced into the peritoneal cavity. There is little or no reaction. The protection against peritonitis is said to appear within three hours and to maintain maximum effectiveness for three days. A reinjection may be made into the peritoneal cavity on the fourth day if further protection is desired. Adhesions are also minimized since Coli-Bactragen has been found experimentally to interfere with the

formation of fibrous bands. It is not to be used, however, for the treatment of an already existing peritonitis.

As a rule, a favorable prognosis can be made if radical extirpation can be done early, before glandular and visceral metastasis has developed. Without treatment the mortality is one hundred per cent, and since surgery is the only method of treatment which offers hopes of cure in carcinoma of the colon, the surgeon is justified in taking greater chances, in operating on poorer surgical risks, than in any other type of surgery. The operation, likewise, should be as radical as the condition demands.

#### SURGICAL CONSIDERATIONS

Though operations on the colon have been fairly well standardized, many different types are being performed. The type of operation for the individual case depends upon the location of the lesion, its extent, the age and physical condition of the patient, and the skill of the surgeon. Palliative procedures will be necessary in approximately half of the cases coming to the surgeon for operation. For example, only palliative procedures should be used for patients having hypertension in cardio-vascular disease. Even a patient with an advanced carcinoma of the colon if there is any hope of relief, should be given the benefit of a surgical procedure. It should always be borne in mind that occasional cases of suspicious cancer symptoms of the colon cannot be diagnosed with certainty, and in all such cases an exploratory laparotomy is indicated.

Whether the resection is to be done at once, or later, is a decision which must be made either before or at the operating table; each case must be judged on its own merits. I prefer the one stage procedure in early cases when the risk is apparently good, when there is no marked anemia and no obstruction; I also prefer the one stage procedure in the cases which have perforated, for in such cases a palliative procedure can rarely be done successfully. In other cases I prefer the two-stage operation, for I am convinced it reduces the immediate operation mortality and markedly enhances a satisfactory outcome. Since a life is at stake, this must be done frequently without regard for the economic situation of the patient.

Operative intervention in the presence of carcinoma of the colon is almost never an emergency procedure. The only exceptions are the occasional acute obstruction superimposed on the napkin-ring type of lesion in the sigmoid and the perforated growths. Patients with acute obstruction, however, can usually be decompressed if a proper regime is instituted and sufficient time is allowed to get results.

Pre-operative preparation and post-operative care are important factors in reducing the immediate operative mortality. Practically all patients admitted to the hospital are in a water and chemical imbalance which must be corrected be-



fore any radical operation is performed. Transfusions are frequently advisable before operation; they should also be given routinely immediately after a resection of the colon and repeated when necessary. There should likewise be a liberal administration of glucose in normal saline solution intravenously over a period of several days. Morphine should also be given freely.

### CONCLUSIONS

The physician who first sees the patient with early symptoms of carcinoma of the colon is largely responsible for the outcome of the case. The surgeon who is called in to treat the case when the disease is advanced and hopeless possesses no techniques that can possibly compensate for such fatal delay.

A more positive attitude of mind in the diagnosis and treatment of carcinoma of the colon must be developed to secure earlier recognition of the primary lesions and to provide for possible surgical cure.

With our present day knowledge, after a painstaking history, a complete physical examination, and roentgenologic study, few cases of early carcinoma of the colon should remain undiagnosed. Occasionally, however, an exploratory operation will be required.

Roentgen-ray examination is most important as an aid in arriving at an early diagnosis of carcinoma of the colon. The combined barium colon enema and air insufflation give the best results. These will reveal characteristic filling defects and the location and extent of the lesion. A localized tenderness over the defect is a fairly constant sign.

In no region of the body is the prognosis brighter for the treatment of malignant disease than in the colon, because the tumor usually grows slowly, and metastasis develops late and is seldom present until after the growth has given fairly distinct warning of its presence.

The surgical treatment of early carcinoma of the colon offers definite prospect of a complete cure. The operative procedures are selective, depending upon the location of the lesion, its extent, the age and physical condition of the patient, and the skill of the surgeon.

Carcinoma of the colon is rarely an emergency problem; consequently careful study and pre-operative preparation can be carried out in the great majority of cases.

Pre-operative preparation and postoperative care are important factors in reducing the immediate mortality. Transfusions and glucose in normal saline solution intravenously should be given before operation when indicated and routinely after all radical operations for carcinoma of the colon. Morphine should likewise be given freely.

Patients leaving the hospital after a radical operation for carcinoma of the colon should be returned to their medical advisor for frequent observations over a long period of time; for recurrences take place five years or more after operation, and new primary growths in the colon are not so rare as is commonly thought. The latter should not be mistaken for recurrences.

### Professional Bids.

Since completing this paper I have received the latest issued Special Vital Statistics reports of the Bureau of Census. These give some interesting statistics on the subject at hand which are as follows:

TOTAL NUMBER OF DEATHS FROM CANCER OF THE COLON (except rectum) IN THE U. S.

1933	1934	1935	1936	1937
12,972	14,105	14,465	15,364	15,978

NUMBER OF DEATHS FROM CANCER OF THE COLON (except rectum) BY SEX IN THE U. S.

1933	1934	1935	1936	1937
Fe- Male	Fe- Male	Fe- Male	Fe- Male	Fe- Male
3,789	7,183	6,358	7,747	6,428
8,037	6,833	8,531	7,175	8,803

NUMBER OF DEATHS FROM CANCER OF THE COLON (except rectum) IN THE U. S. BY AGE IN 1937.

Under 10	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 and over	Total
23	43	168	560	1,545	2,975	4,665	4,393	1,507	94	15,978

## Recent Advances in Medicine

C. D. AWE, M. D.

El Paso, Texas

**I**N an era characterized by important advances in all branches of medicine the most spectacular work has been done in the field of chemotherapy.

When Domagk discovered the life-saving properties of the red dye, which he named prontosil, he undoubtedly made the greatest single contribution to modern medicine. Paracelsus taught that each disease had its mineral specific and mercury, bismuth, antimony, and many other metals became adjuncts to therapeutics.

The discovery of salvarsan, by Ehrlich, greatly stimulated chemical research, and effective remedies were found for most of the animal organisms such as trypanosomes, spirochetes, and others

which produce disease in man. These remedies, however, proved rather ineffective against bacteria. Some of the aniline dyes readily destroyed bacteria in the test tube, but when introduced into the blood stream in sufficient concentration to exert a bacteriocidal action they frequently produced reactions which were decidedly harmful to the patient. The general trend was away from chemical treatment and in favor of serum therapy or immune transfusion.

The discovery that prontosil was specific in hemolytic streptococcal infections proved to be a tremendous impetus to research in laboratories and clinics. Soon this preparation and the simpler dye, prontosil, or sulfanilamide, were in common

use by the medical profession the world over. Neoprontosil and sulfapyridine are newer additions to the field of chemotherapy and have many enthusiastic advocates. Sulfanilamide is the best remedy developed, thus far, for the treatment of streptococcal infections. Its effect is apparently bacteriostatic rather than bacteriocidal, although it seems to have a bacteriocidal effect upon small numbers of organisms in some strains. The exact manner in which bacteriostasis is produced is still not proved.

Janeway states that sulfanilamide owes its remarkable curative properties both to its efficacy against the infecting organism and to its rapid absorption, ready diffusibility into the tissues, and lack of toxicity at therapeutic concentration. He adds that there is little evidence that the drug stimulates the defense reaction and abundant evidence that it makes the organism less virulent and thus amenable to destruction by the natural process of resistance. This is apparently accomplished by slowing down the rate of growth of the bacteria.

According to Keefer the most striking results from sulfanilamide treatment have been obtained in hemolytic streptococcus meningitis, bacteremia, puerperal sepsis, cellulitis, erysipelas, chronic empyema, osteomyelitis, and chronic leg ulcer. In his experience less impressive results have been reported in scarlet fever and acute tonsillitis. Sulfanilamide operates best in the blood stream and in areas of bacterial invasion which are rich in tissue fluid and serum. Perusal of reports in the literature indicate that sulfanilamide is at least as effective as serum or anti-toxin in meningitis, but that the best results are obtained when both methods of therapy are used, because in this disease it is especially desirable to obtain rapid antibody formation.

It is the most effective drug in the treatment of gonococcal infections and is more effective in the experience of Helmholtz in the treatment of pyelitis than either urotropine or the mandelic acid preparations.

Many writers have pointed out the fact that all of these drugs have many toxic manifestations. Brooks has emphasized the fact that all systems of the body may be affected by toxic manifestations. Vertigo, nausea, vomiting, diarrhea and skin eruptions are rather common symptoms. The consensus of opinion seems to be that anemia is not an early manifestation but usually appears in the second or third week of treatment.

Cyanosis is observed in a high percentage of cases receiving ordinary doses of sulfanilamide and in all patients receiving large doses. Coggeshall and Bauer, who had a great deal of experience with the drug, state that in view of the fact that it has been shown that the oxygen capacity of the blood is not diminished the cyanosis can not be considered a contra-indication to the continuance of therapy.

In most instances the cyanosis is probably the result of methemoglobin, which has been found in

concentration as high as 13 milligrams per cent. A capsule containing one or two grains of methylene blue every four hours will aid in the rapid elimination of this symptom. A smaller number of cases of cyanosis is due to a formation of sulhemoglobin, which some observers feel is from the sulphur molecule in sulfanilamide.

Some authors have made the interesting observation that in those cases who have the most marked cyanosis anemia is much more likely to occur. Sulfapyridine (2-sulfanilyl pyridine) has proven an invaluable weapon in the treatment of all types of pneumococcal pneumonia. A recent paper by Allison reviews 100 cases of pneumonia in whom the treatment was carefully controlled. There were four deaths. The best previous mortality was eleven per cent. Thirty-one per cent of the cases had rather severe nausea and vomiting, but this did not prove to be a contra-indication to use of the drug.

Odenberg and Fox demonstrated the development of a violet color if clear solutions of sulfanilamide of (10 to 20 mg. per cent) were irradiated. When the solution was added to plasma, the violet color disappeared and the erythrocytes became brown as they do in cases receiving sulfanilamide. Most observers now feel that acidosis does not occur frequently during sulfanilamide therapy and that the symptoms attributed to acidosis are the result of hyperventilation. Hartmann and his co-workers observed that the hyperventilation, resulting from moderately large doses of sulfanilamide simulated the dyspnea of acidosis, yet only moderate reductions (15 to 20 vol. per cent) of carbon-dioxide content of the blood were demonstrable. Further studies revealed that coincident with the fall in the carbon-dioxide content of the serum there occurred a rise in serum pH and the production of an alkaline urine. These findings led the investigators to conclude that the changes in the acid-base equilibrium represented a carbon-dioxide-deficit type of alkalosis secondary to primary hyperventilation, and not acidosis.

Their findings would indicate that the use of alkali with sulfanilamide is not only unnecessary but may be harmful. In a small percentage of cases severe febrile reactions may occur within a few days after the institution of treatment. The temperature drops as soon as the drug is withdrawn. The reports in the literature would indicate that cases of gas gangrene, undulant fever, and influenza should be treated with sulfanilamide in addition to the diseases previously outlined.

Finland has found sulfapyridine to be most effective when used with anti-pneumococcal serum, and most writers feel that serum is definitely indicated in order to stimulate antibody formation. Although sulfapyridine has been used in a great many situations it should probably be limited to pneumonia and to patients seriously ill with staphylococcal septicemia.

We may expect many new chemical preparations closely allied to those which have proven so



valuable. It is still too soon to estimate the total benefit which will be derived from these new weapons against disease. However, when we consider the fact that according to the U. S. Public Health Surveys of respiratory infections that hemolytic streptococcal infections are responsible for at least five per cent of the measurable illness and twenty per cent of all the respiratory diseases we realize that we have a drug which may prove to be the most valuable of any drug discovered up to the present time. Recently a number of interesting reports have been made on the work of Dubos and Avery. Dubos felt that since the decomposition of organic matter in soil was affected by micro-organisms he might be able to develop a strain of soil bacteria capable of decomposing bacterial protein. He kept adding washed cultures of gram-positive cocci to a sample of soil and eventually isolated a gram-positive bacillus, culture filtrates of which were bacteriocidal for all the gram-positive but for none of the gram-negative species tested. He has now obtained the active principle in nitrogen-free form. A small fraction of a milligram will protect mice against several times the pathogenic doses of pneumonococci and streptococci.

#### THE VITAMINS

Of importance only secondary to the advances in the field of chemotherapy are those in vitamin therapy. The recognition and synthesis of several important vitamins has occurred within the past three or four years.

Vitamin A has been isolated in a chemically pure state and its successful synthesis was announced in 1937. It is an unsaturated alcohol with the formula  $C_{20}H_{29}OH$  and is a colorless compound related to the carotenoids, which are found in many plants, particularly carrots and sweet potatoes, which derive their color from them. Four of these substances, which are known as provitamins, can be converted in the body into vitamin A.

The chief sources of vitamin A in the human diet are butter, milk, eggs, and liver. Of course codliver oil remains the richest single source of this vitamin. About three thousand international units is required in the average daily diet.

Vitamin A should be given in cases of xerophthamia, and in cases who complain of night blindness, or those in whom photometer tests show abnormal dark adaptation. It is questionable whether the taking of vitamin A beyond ordinary requirements will prevent colds or respiratory tract infections. It is, however, recognized that people who take less than the minimum requirements of two thousand international units daily are more susceptible than the average individual to respiratory tract infections.

Vitamin D apparently is obtained from several compounds which are sterols or steroids, and their sources in the human diet are the same as those of vitamin A. They are rendered effective by the action of ultra-violet light.

Vitamin D is of great importance in calcium and

phosphorus retention in the human body. Apparently sufficient quantities are acquired through the taking of milk and cheese and ordinary exposure to sunlight.

One of the most interesting discoveries in the field of the fat soluble vitamins is vitamin K, the best sources of which are alfalfa and decayed fish meal. It is believed that the cause of excessive bleeding in cases of obstructive jaundice is due to an abnormally long prothrombin clotting time. This is apparently the result of failure to absorb vitamin K in the absence of bile secretions.

Doisey and his co-workers have recently announced the synthesis of vitamin K and state that it can be manufactured at a comparatively low cost.

There are many references in the literature of vitamin E, but aside from some reports which suggest its value in habitual abortion little has been added to our knowledge of this group of substances.

Of the water soluble vitamins most attention has been paid to vitamin B, which at the present time is enjoying tremendous popularity, not only among physicians, but among the laity as well. There are apparently at least nine fractions which were formerly included under vitamin B. Of these the vitamin B<sub>1</sub>, or thiamin chloride is the most useful. The formula and the synthesis were announced by Williams, who had been working with vitamin B for many years. It is of great value in the various neuropathies. It is recognized that alcoholic neuritis is probably largely dependent upon a vitamin B<sub>1</sub> deficiency and does not vary from the other neuropathies.

There are numerous reports in the literature on the efficacy of thiamin chloride in the treatment of various types of neuralgia and neuritis, particularly in tic douloureux and sciatica. There is also a group of cardiac cases which fall in the deficiency class, such as beriberi heart, which are greatly benefited by vitamin B. This vitamin also has an important effect on gastro-intestinal secretions.

Cowgill states "that the physiology of thiamin indicates that it plays a definite role in carbohydrate metabolism consisting of the oxidative removal of pyruvic acid which is one of the oxidative steps in the catabolism of carbohydrate. In human beriberi there is an increase in the blood pyruvic acid. The clinical state of beriberi is not attributed to the toxic effect of the pyruvic acid, but to the fact that in a disturbance of the metabolism of glucose the function of the nerve cell is disturbed." As marketed at the present time, one milligram of thiamin chloride represents three thousand units. An attempt is being made to arrive at a new method of standardization.

Reports in the literature indicate that children on diets of vitamin B<sub>1</sub> deficiency are definitely retarded in growth. It is our belief that the average diet is deficient in vitamin B and that it is an important adjunct to therapy although its value in

anorexia has probably been overemphasized by the drug houses.

Vitamin C has been synthesized and is known as ascorbic acid. According to Burnett the outstanding characteristic of vitamin C deficiency is the inability of the supporting tissues to produce and maintain intercellular substances.

The role of vitamin C in peptic ulcer and digestive disturbances has been the occasion for many articles, but apparently more evidence will be necessary before its value in gastro-intestinal conditions is proven. The general public is rather familiar with this vitamin as the result of the advertisements of the citrus fruit growers and we doubt if there is any marked vitamin deficiency in this country.

#### RECENT ADVANCES IN THE SPECIALTIES

In the field of laboratory medicine probably the most important advance has been the measurement of sulfanilamide in the blood. By the method of Marshall, Emerson, and Cutting it is possible to accurately determine such concentration by a simple colorimetric test. It is necessary to use less than 2 c.c. of blood and 1 c.c. of urine for the determination of sulfanilamide values.

Newer methods in the measurement of phosphatase and of vitamin C mark advances in this field. The unit of Jenner and Kay for phosphatase determination is given preference to those of Bodansky and Kay in a number of clinics.

In bacteriology the most progress has been reported in the field of the filtrable viruses. It is now known that trachoma, influenza, yellow fever, lymphogranuloma inguinale, and canine distemper are virus diseases. It has been established that tularemia may be transmitted by dog and wood ticks.

In neurology there has been considerable activity in the field of electroencephalography, especially in the diagnosis of epilepsy, and in the localization of cerebral lesions. The introduction of

dilantin by Merritt and Putnam in the treatment of epilepsy is a great improvement over the older methods. In physiology much additional information has been gained on the importance of the potassium ion.

In the field of allergy there have been several worth while additions to therapy. Potassium chloride has proven to be of value in urticaria and hay fever. Aminophyllin seems to have a place in the treatment of asthma, although our personal experience with it has been rather disappointing.

In 1938 Keeney introduced epinephrine in oil. It has a more lasting effect than the other preparations of the drug due to the slow rate of absorption.

Intensive research has been done in the field of the anemias and there are many conflicting reports on the causation of pernicious anemia in the literature at the present time. Probably the most important single advance has been the recent standardization of liver extract in U. S. P. units. It is emphasized that iron is the only drug of value in the treatment of hypochromic anemia and that it is best given in the form of ferrous sulphate.

Following the lead taken by the Russians, and later by the Spaniards, several clinics are establishing blood banks. The University of Chicago has had the greatest experience in this field.

The use of glandular therapy has been widely extended and there is voluminous literature on the estrogenic hormones. The manufacturers have recently adopted a common method for standardization of the estrogenic hormones.

In the diagnostic field the use of the gastroscope has been extended and this instrument promises eventually to be as important in the diagnosis of gastric diseases as cystoscopy in genito-urinary diagnosis.

While we have attempted to summarize most of the recent worth while advances it is impossible in a paper of this scope to include them all.

First National Bank Bldg.

## Allergy and Pseudo-Allergy in General Practice

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IT has been said that if one knows syphilis he knows medicine. A more modern axiom seems to be if you don't know your medicine, call the condition allergy; it sounds sophisticated, and besides it's a relatively new subject on to which one may unload all diagnostic difficulties. The allergist is partly responsible for this attitude, but he is by no means the worst offender. Few of those who use the word so glibly have the slightest concept of its meaning. In effect, therefore, each individual applies his own interpretation. Is it any wonder that there is a confusion of tongues, to use

a biblical expression? The 1936 edition of Dorland's medical dictionary defines the term as follows: "A condition of unusual or exaggerated *specific susceptibility* to a *substance* which is *harmless* in *similar amounts* for the majority of members of the same species." This is fine so far as it goes, but it does not go far enough; nevertheless, adherence to this definition would correct many misuses of the term. It must be admitted that the demarkation between allergic and non-allergic conditions is not always clear cut. In general, the reactions seem to be characterized by a disturbance in the balance between the sympathetic and the parasympathetic (vagus) systems. The English



designate it as "vague dominance". True allergy implies that the etiology includes a specific sensitization, and that a predisposition to these conditions was inherited in a majority of the individuals. Furthermore, the various conditions tend to appear in sequence at different ages. A common fault in medicine is to make a new diagnosis, as well as the indications for a recently discovered drug, too inclusive. Anything which is bizarre may greatly impress one, but that's no excuse for designating the condition "allergy". If one must use this term, designate the condition pseudo-allergy until a more specific diagnosis is possible. This will convey the impression of a peculiar reaction without prejudice as to cause or prognosis. Whenever one is too certain about any diagnosis he becomes correspondingly less receptive to signs pointing in another direction. It is better for the patient, for his family physician, and best of all for the allergist whom he might consult, if the diagnosis of allergy is not too freely dispensed. Remember, allergy is probably not a disease, but rather a condition. It cannot be too strongly emphasized that "all that wheeze are not allergic".

#### DIAGNOSIS

Certain cases of asthma, hay fever, eczema, a few of those with urticaria and angioneurotic edema apparently qualify as examples of allergy. The others may be tentatively classified as pseudo-allergies. One might ask what a general practitioner may do to make such differential diagnoses. Shall he buy a set of allergens and test every patient or just keep a set in reserve and use it, if it can be found, once or twice a year on those presenting especially complicated problems? In most instances such expenditures are not justifiable. An adequate history is one's greatest asset and it can be used to supplant allergic tests in a majority of instances.

Since eczema is often the earliest allergic manifestation a few points in differential diagnosis seem timely. A skin rash on an infant may result from exposure to the sun, to wind or because of low humidity. Here the location of the rash on the face and possibly on the hands, and frequently on a blonde or red-haired infant points to the etiology. Another group develops a rash when cow's milk is first used in the diet. A reduction in fat content may solve the problem of etiology and incidentally of treatment. Another has been too energetically cleaned by the mother. The answer here is evident. A diaper rash can mimic an allergic eczema; especially if the rash has been present for several days. Many infants have an attack of seborrheic dermatitis of the scalp, but the negative personal and family history and the location of the rash should help to exclude allergy. Possibly cow's milk, even after skimming, is not well tolerated, and regurgitation or vomiting follows its ingestion. Before accepting that as a true hypersensitivity, try acidifying with citric, lactic or other acid.

If the parents or other members of the child's

family have one or more allergic conditions, if the rash is located in the popliteal and antecubital fossae, if it follows rather closely the ingestion of a particular food, then one has a reason to suspect an allergic eczema. If a specific skin sensitivity can be demonstrated and correlated with the patient's contacts the diagnosis is more firmly established. Improvement after removing the suspected food or other agent from his contacts, adds to the evidence and is of considerable therapeutic value.

The history may indicate that the rash is confined to those areas where the food actually touches the skin. Spinach is a common offender; a string of it drags across the baby's chin or contacts his hand or arm and at first the rash appears on those areas only; it may spread later. Is that an "allergy to spinach"? Decidedly NOT. It is a contact dermatitis (a pseudo-allergy) probably similar to that produced by primrose, poison oak, nickel, dyes of various types or almost any other agent. This condition is as common in the normal as in the allergic population. Patch tests, but not allergic tests, may be indicated. Apparently anyone can develop a contact dermatitis or other pseudo-allergy, whereas the most generous estimates seldom claim more than a 10% incidence of true allergy.

Possibly the next manifestations in the potentially allergic individual will be those of vasomotor rhinitis. The earliest sign may be a most vigorous rubbing of his nose or eyes. Sniffles or frequent head colds may be the signs emphasized by the parents. The value of an adequate detailed history was mentioned previously; here it may well be reemphasized a hundred fold. When, where, and why did the nasal symptoms or peripheric irritation first appear, and what is the relationship to season, locality, contacts—especially animals, foods, pollen, etc.? Does the patient have his symptoms when colds are not prevalent among his contacts? Are the symptoms transient, i. e., present only in the morning and evening, or present one day and gone the next and then recur a few days later? No true cold was ever so fleeting, but such variations are almost typical of vasomotor rhinitis. In the adult one should not fail to inquire if the subject "catches cold in a draft". An undue susceptibility to slight chilling may be the only cause for symptoms. It may also be very conspicuous in one with allergic rhinitis; a condition commonly called hay-fever, though not often accompanied by a fever nor necessarily due to pollen from hay. If the patient has lived in various parts of this country, or of the world, one may foretell his pollen sensitivities by knowing where and when he was free from symptoms or where they were aggravated. Thus an eastern fall hay fever victim might be free from symptoms in Europe during the fall and almost certainly would be free during the ocean voyage; since ragweed was the cause in the east, and since it does not grow on the Continent, nor at sea, tests are only confirmatory.

If a patient has "hay fever" in Los Angeles, aggravated when he or his neighbor mows the lawn, and he had no symptoms in Gallup, bermuda grass might be the etiologic agent. What if the points in the history are reversed? If one knows the botany of these two areas he may determine, even before doing tests, what pollens cause the symptoms. It appears that many etiologic types of vasomotor rhinitis are indistinguishable by physical examination. The allergic patient may differ from all others only by being sensitive to inhalents to foods or other allergens. Smears of nasal secretions stained for eosinophiles rarely help one to make a differential diagnosis. Among the allergic patients a certain sign or symptom may be outstanding in one and completely absent in the next patient. In each one these varied symptoms may be caused by a sensitization to one and the same allergen.

Another stage in the sequence of events in our hypothetical patient may be the onset of croup at the age of 3 or 4 years. If too energetic treatment did not unduly prolong the skin rash, whether true eczema or not, it probably disappeared before the age of 3 years. After the nasal symptoms have persisted over a period of months or a few years the entire household—least of all the patient—may be very much upset by his first attack of croup. This is undoubtedly a manifestation of asthma and is a common forerunner of the more typical symptoms. An injection of epinephrine may work a miracle. Paroxysmal dyspnea of this type is frequently allergic in origin. It is quite possible that anyone could develop a type of paroxysmal dyspnea if he had been exposed to sufficient silica dust, had sufficient pulmonary fibrosis or the right degree of arteriosclerosis and hypertension. Only a small proportion of the population could develop allergic asthma. All others might be designated pseudo-allergies. What helps to identify the allergic? The onset of true asthma or other allergy early in life (usually before 40) and before other pathology is detectable, sensitivities to one or more allergens, relief by treatment on the latter basis and between attacks, an absence of any significant physical, x-ray or laboratory finding, all point to allergic asthma. Relief from any particular drug is not pathognomonic. True asthma has been called a brevet of long life; hence in retrospect a death from asthma a few years after its onset practically excludes the allergic type.

For the past 5 years at the Los Angeles County Hospital we have depended upon the history, physical and routine laboratory examinations and a flat plate of the chest for a tentative differential diagnosis of the type of paroxysmal dyspnea. Only those patients presenting a typical allergic asthma, or those in whom such a diagnosis is quite probable, have been subjected to allergic tests. Since a majority of these patients have paroxysmal dyspnea, and usually of the pseudo-allergic type, an enormous saving in time and money has resulted.

In private practice one may also limit the tests

according to the indications from the history and other data. When a potential allergic patient presents himself the procedure is about as follows: A detailed history of present complaints, also present and past history of these, the general past history and the family history is taken. This usually requires an hour or more. Incidentally it is best not to know the diagnosis or findings of another physician until an unbiased history is obtained. Our own, the patient's and the other doctor's impression form the basis for advising tests to foods, to inhalents, to both groups or to none at all. The latter advice is not infrequently given. If tests are to be done they should be inclusive enough to cover that phase of the problem and this is especially important when testing to pollens. Those used in testing patients living on the desert are quite different from the pollens employed for residents of Los Angeles. One should insist in an adequate physical examination and chest x-ray, done within the previous 6 to 12 months for all patients complaining of so-called asthma. When all data are at hand one may, in the majority, determine the type of paroxysmal dyspnea and the specific sensitivities which are potential causes of symptoms.

#### MANAGEMENT

The management of a patient with allergic asthma may be used as an example of the basic method for the care of any true or pseudo-allergic patient. The modifications made necessary by the variations in signs and symptoms and by the findings should be evident. One may divide the procedures into (a) specific, (b) non-specific and (c) palliative and symptomatic treatment. The specific treatment is limited to the allergic group and to those in whom the etiologic agent or agents has been determined by tests or by unquestionable data from the history. If possible, completely eliminate the suspected factor from the patient's contacts. Foods, animals and ornamental plants can in most instances be thus eliminated. Occasionally elimination diets may be of value in determining a food factor not demonstrated by test or by history. Diet lists containing information relative to the possible sources of contact with egg, with wheat, etc., have been prepared. They should impress one with the difficulty of really eliminating a food from the patient's environment. Treatment with pollens of weeds, grasses, etc., is quite effective; Orris root, mold and house dust sensitivities also yield satisfactory results on treatment. Let us not forget that there is no effective shot-gun prescription of pollens, house dust or any other allergen.

The nonspecific treatment of all types of true and pseudo-allergic conditions includes a great variety of agents. To some of these, urinary protease, autohemotherapy and autogenous vaccines, certain workers are prone to attribute specific properties. A foreign protein may be very effective in a patient with eczema or urticaria, in one with frequent head colds or with more typically vasomotor rhinitis or finally in one with paroxysmal dyspnea of any type. Not infrequently we employ such substances



to supplement specific treatment with pollens, house dust, etc. When relief is obtained with a nonspecific agent alone it may be as complete as that which follows specific treatment. The percentage of those obtaining relief by the latter is, however, much greater than by any other method. Either type of antigen may aggravate any or all kinds of allergic symptoms. Their administration must be adapted to the individual rather than to attempt to make the patient take the injections according to an arbitrary schedule.

#### PALLIATIVE THERAPY

Symptomatic and palliative therapy will, if effective, tax one's knowledge of pharmacology and physiology. At times one may have to become very unorthodox to accomplish the desired result. A few general principles should be kept in mind. First, drug intolerances are not uncommon among these patients. Just because thousands of individuals use a certain drug, that is no guarantee that the allergic patient will tolerate it. Such commonly used drugs as aspirin, quinine, iodides, phenolphthalein, etc., are correspondingly frequent causes of idiosyncratic reactions. Whenever an ointment, solution or capsule is first used on a patient, limit it to a small area, or a small dosage until his tolerance is determined.

Secondly, in dealing with allergy or any other chronic ailment, use the smallest effective dose of the least potent agent. As the symptoms become progressively worse, one will need a reserve armamentarium of the more potent drugs. Pay very little attention to the optimum doses as given in the literature. When the patient has had little or no contact with the drug he may obtain maximum results from unbelievably small quantities. Thus the dose of epinephrine was formally given as 10 to 15 or even 20 M. It is criminal to employ quantities in excess of 3 to 5 M. until it can be shown that larger doses are necessary and are tolerated. Self medication by the patient is always abused. It is better to vary the drugs than to permit continued increase of any one of them.

The agents which are more or less specific are of two or three types, (a) those that intensify the action of the sympathetics, (b) those that depress the vagus, (c) those whose action may be upon smooth muscle. Theoretically, and by laboratory tests, the vagus depressants may appear as effective as the epinephrine series. Do not forget that the patient is neither a theory nor a laboratory animal. He will, 90 times out of 100, prefer epinephrine to drugs of the atropine series, and clinical results usually justify his preference. Calcium has been elevated to a sublime place by many workers, but unfortunately they cannot prove that the level of utilizable calcium in the blood is correspondingly elevated.

Another group of drugs, the Xanthine series, has received much attention recently in the treatment of all types of asthma. This is not a new discovery, but rather a re-emphasis of their value. One

should never minimize the value of caffeine. It may be taken as hot black coffee, or as the pure alkaloid or citrated. Combined with sodium benzoate it may be used hypodermically in the more severe cases. Within the past few years several compounds of theophylline and of theobromine have been marketed for use in certain circulatory conditions. These drugs may also be effective in all types of asthma and possibly in smaller doses than those in which the drug is usually marketed. These compounds may at times be substituted for epinephrine or may intensify its action. We have found few contraindications to their use; although they have certain limitations.

#### GENERAL MEASURES

The general supportive measures seldom include a need for digitalis therapy, but otherwise follow the indications for any debilitating condition. Glucose intravenously may even relieve the acute dyspnea. It is of great value in the nausea, with or without exhaustion, which so commonly accompanies epinephrine therapy.

Finally, I wish to urge the greatest caution in the use of opiates. Not only are true idiosyncrasies common, but even the normal physiologic effect is undesirable. Depression of respiration, of bronchial secretion, the production of nausea and other gastrointestinal disturbances are common. If opiates must be employed, select the one which gives the maximum benefit with a minimum of unpleasant side effects. One should seldom, if ever, approach the minimum analgesic doses. Giving it with epinephrine seems to have a synergistic effect.

I have purposely excluded a discussion of the use of iodides, a moot question when considering the treatment of patients who have had pulmonary tuberculosis; of the place of helium-oxygen mixtures; of bronchoscopic treatment; of ether in oil by rectum and of many other procedures which find limited application. If one properly applies the principles indicated for therapy in asthma, the treatment of skin or nasal symptoms with or without asthma should yield better than average results. The latter should be taken to mean relief or remission, but be guarded in the use of the word CURE!

1930 Wilshire Blvd.

#### PROPAGANDA FOR REFORM

"Pregnacol" Pregnancy Test. The Gruskin test for pregnancy (Pregnacol) is apparently carried out by injecting intradermally "an antigen prepared from the fetal layer only of the human placenta." The diagnosis of pregnancy is said to be positive if pseudopods arise from the wheal at the site of injection and negative if there is an absence of the pseudopods. There appears to be no evidence to indicate that this test approaches the reliability of the Ascheim-Zondek or the Friedman test. (J.A.M.A., Aug. 5, 1939, p. 529.)

# Sulfapyridine in the Treatment of Thirty Cases of Pneumonia

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and

LOUIS HAMILTON, M. D.

*Artesia, N. M.*

IN 1935 Gerhardt Domagk<sup>1</sup>, of Germany, reported the effectiveness of certain coal-tar derivatives, named Prontosil, in the cure of experimental streptococcal infections in mice. Later in that same year in France, the Trefouels, Nitti, and Bovet<sup>2</sup> showed that it was the para-aminobenzene-sulfonamide portion of Prontosil that was the active therapeutic agent in curing mice experimentally infected with hemolytic streptococci. This fraction of the Prontosil compound has since become known as sulfanilamide in this country.

Next Colebrook and Kenney<sup>3</sup> from the Queen Charlotte's Hospital, London, published a startling article in the *Lancet*, December 5, 1936, telling of the amazing cure of a number of cases of puerperal infection due to the hemolytic streptococci by the use of Prontosil. Following this publication many workers the world over took up a careful investigation of the mode of action of Prontosil and sulfanilamide.

Colebrook and his Associates<sup>4</sup> took up the work of determination of the mode of action. Long and Bliss<sup>5</sup> in this country wrote a very excellent article, telling of experimental work with the drug that was then about to be named sulfanilamide.

Later Marshall and Associates<sup>6</sup> published further experimental work, particularly on a method for the determination of the concentration of sulfanilamide in blood. Their work as well as that of others soon proved the necessity of maintaining a definite blood level to obtain therapeutic effects.

Many clinical papers were published and the use of the drug was extended from hemolytic streptococcal to gonococcal, meningococcal and even pneumococcal infections. The last, however, were not found to be particularly susceptible to the drug.

Lionel Whitby<sup>7</sup>, writing in the *Lancet* in May of 1938, reported experiments on a new compound at first called M & B, 693, as a chemotherapeutically active agent in experimental pneumococcal infection in mice against Types I, II, III, V, VII, and VIII Pneumococci. Later in November he<sup>8</sup> reported a comparative study of a number of sulfonamide derivatives showing that of all of these the one called M & B, 693, was outstandingly the most active against the pneumococci and the least toxic. He also spoke of a lag phenomena showing that these drugs are not concerned with the immunity mechanisms. The discovery by Whitby of this new compound first called M & B, 693, later named sulfapyridine in this country and given out for use in the United States only in March of this year, has been without question one of the greatest contribu-

tions to chemotherapy that this century has seen.

In February of this year, Whitby and McIntosh<sup>9</sup> published further work on the mode of action of sulfonamide derivatives studying particularly sulfanilamide and sulfapyridine. Their conclusions are:—

1. that sulfonamide derivatives do not stimulate leucocytic or phagocytic activities,

2. that sulfonamide derivatives do not affect the speed or production in quality or quantity of specific immune bodies.

3. that sulfonamide drugs, both in vivo and vitro, are not instantly active, and that there is a qualitative relationship between the effective dose of the drug and the number of bacteria affected,

4. that the sulfonamide drugs are only active on the highly virulent organisms—the so-called smooth organisms, and

5. that the sulfonamide derivatives do not act as a germicide, but probably act by the neutralization of some metabolic or enzymatic activity of the invading organisms.

We are reporting here on thirty cases of pneumonia treated at the City-County Hospital at El Paso, Texas during the months of February and March, 1939.

## PLAN OF STUDY

We treated all pneumonia cases admitted during the two months indicated, which were thirty patients in all. All patients exhibited the usual signs of lobar or bronchial pneumonia. Pneumococci were found in the sputum or blood culture of all but two patients, thus proving the causative organism in all but two cases. Careful physical examinations and x-ray on most cases helped to confirm the diagnosis. Studies by the use of sputum typing and blood culture were made additionally.

### Table I—Ages of the patients.

From this it will be seen that 8 of our 30 cases are under twenty years of age. The majority of the cases fell in the age group of 30 to 40 years. One patient was over 70.

### Table II—Sex.

Males predominate in the ratio of more than two to one.

### Table III—Distribution.

Of our thirty cases, twenty-four were lobars and six bronchial pneumonias.

### Table IV—Etiology.

The most frequently occurring pneumococcal type was Type VII. Types IX and XIX occurred each three times. While Types IV, VI, XXIII, XXIV each occurred twice. Types VIII, XI, XII, XIV, XV, XVIII and XXIX each occurred once.

### Table V—Complications.

Heart failure was the commonest complication. The next commonest one was pyelitis. In addition, rheumatic heart disease, syphilis, amebiasis, tuberculosis, asthma, septic abortion, aortic aneurysm, lung abscess, ascites, post-operative infection, and pyelonephritis made up various complications present.



## Table VI—Dosage.

These cases are divided into those; 1, complicated by tuberculosis; 2, those showing the most severe complications which received accordingly the most drug; 3, the cases showing positive bacteremia which, as a group, received the third highest dosage of drug; 4, the cases without bacteremia, who took slightly less of the drug, and finally 5, the significant grouping of the cases showing minimal lung involvement and minimal complications who needed only 22.11 grams of the drug, as compared to an average of 70 grams for the severely complicated cases.

## Table VII—Reactions to the Drug Itself.

(a) Those who had nausea and vomiting, 17 cases; (b) no reactions whatsoever, 11 cases. There were no other untoward reactions, although Urticaria did appear in one case. The nausea and vomiting was never very severe, though in most cases it was definitely a cause for complaint.

## Table VIII—Oxygen.

17 cases received oxygen with an average amount to all cases of 6 liters per minute. It is to be especially noted that our sicker cases received oxygen for definitely prolonged periods of time. This did much also to relieve the toxicity of their symptoms.

## Table IX—Transfusions.

Transfusions were given to seven cases. The degree of anemia is not shown but it approached 50 to 60% Hbg. (Sahli) and 2.0 to 2.5 million reds when used.

## Table X—Serum.

These cases were failing despite all other measures and three of four rallied with massive amounts of serum. No untoward reactions. In each of these cases where practicable, the serum was administered intravenously and diluted well in 500 cc. of 5% glucose in saline.

## Table XI—Tabulation of all cases.

Reference particularly to (1) Severity of infection by classes, (2) Days ill prior to treatment with sulfapyridine.

## (1) Severity of Infection—

Class A—Deaths—Two in number.

Class B—Severely ill cases—thirteen in number.

a. Complications

b. Bacteremia

c. Two or more lobes involved.

Class C—Milder Cases—fifteen in number. Usually only one lobe involved, no serious complications, quick response.

## (2) Days ill prior to admission. The average days ill prior to entry was 6.7 days, one case being ill 30 days prior to entry; namely, Case No. 1. Case No. 2 was sick 14 days prior to use of sulfapyridine, Case No. 9 was sick 12 days prior to use of sulfapyridine. This shows at what a late date many of our cases came to the hospital with their illness, and it also speaks for the severity of the complications present. Because of this, as shown in Tables IX, X, and XI, we felt it necessary to give oxygen, transfusions, and serum to a number of the cases. Seventeen in all received oxygen, seven in all received transfusions, and four in all received serum additionally to sulfapyridine.

We were unable to estimate hemo-concentrations of the drug.

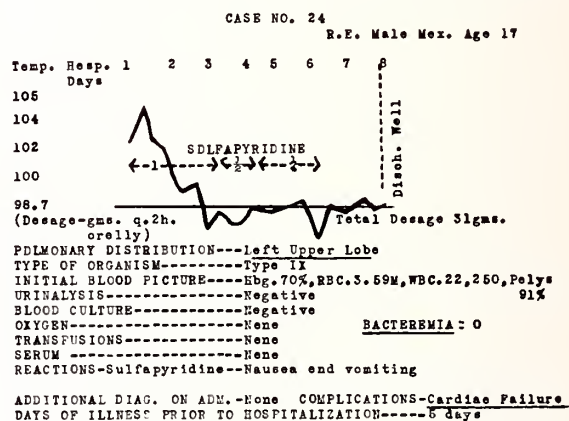
## MORTALITY.

Two of our cases died, giving us a mortality of 6.66%, but if we consider the absolutely pneumococcal proved cases, which were 28 in number, with

only one death among these 28, our mortality is 3.93%. One autopsy: Case No. 29.

## METHOD OF TREATMENT.

The method of treatment was to begin in most cases with 1 gram of sulfapyridine every two hours by mouth for the first twenty-four or forty-eight hours. The dose was then decreased to 0.5 gram every two hours for the next two to five days, and then when the patient seemed clinically much improved and but a few rales were present, the dose was reduced to .25 gram every two hours. This gives



Typical case showing minimal involvement and about average dosage. 15 such cases. All well.

an initial dose of 12 grams for the first twenty-four or forty-eight hours. Then the dose was reduced to 6 grams every twenty-four hours for the next two to five days. Thereafter, the dose was 3 grams each twenty-four hours until all physical signs had disappeared and the patient was completely well. There was no attempt to give alkaline substances with the medication.

## DOSAGE VARIATION

Average dose of all cases was 39.19 grams. Largest amount administered to a patient that got well was 89 grams. The smallest dose given was 4 grams. The average dose on the cases with severe complications was 70 grams and average dosage of the cases with minimal complications was 22 grams.

## RESULT OF TREATMENT

An interesting result of the treatment is the rapid fall of the temperature and pulse within the first thirty-six to forty-eight hours after commencement of sulfapyridine. With few exceptions this was the rule. In these cases lung symptoms still persisted, but the toxicity of the patient was greatly ameliorated while the temperature, pulse, and respiratory curve all approximated normal. The sputum was still rusty-colored in many cases and was positive for pneumococci for several days though the patients felt fine. This was true even on our Bacteremic cases, but where the larger doses of sulfapyridine were long continued, a very definite fall in the total erythrocyte count ensued. These cases necessitated transfusions. In four of our sicker cases serum was also given. One of these

# Twenty-fifth Annual Session SOUTHWESTERN MEDICAL ASSOCIATION

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## DIRECTORY

Registration	-	-	-	-	-	-	-	-	-	Mezzanine
Scientific Sessions	-	-	-	-	-	-	-	-	-	Crystal Ballroom
Luncheons	-	-	-	-	-	-	-	-	-	Cortez Roof
Scientific Exhibit	-	-	-	-	-	-	-	-	-	Mezzanine
Technical Exhibit	-	-	-	-	-	-	-	-	-	Mezzanine
Dinner Dance	-	-	-	-	-	-	-	-	-	Cortez Roof
Buffet Supper	-	-	-	-	-	-	-	-	-	Cortez Roof
Board of Managers (SOUTHWESTERN MEDICINE)	-	-	-	-	-	-	-	-	-	Private Dining Room 340
Southwestern Academy of Eye, Ear, Nose and Throat	-	-	-	-	-	-	-	-	-	Mezzanine Tea Room

Registration Fee

Members \$5.00

Non-Members \$8.00



Note Bulletin Board in Lobby for Any Changes.



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San Francisco, California. Clinical Professor Surgery,	
Stanford University School of Medicine,	
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tion and Internal Medicine, University of Michi-	
gan School of Medicine, Ann Arbor.	
Henry M. Winans, M. D.....	Medicine
Dallas, Texas. Professor of Medicine, Baylor Uni-	
versity College of Medicine, Dallas.	

## Committees for 25th Annual Session

### General Chairman

Gerald Jordan, M. D.

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### Scientific Exhibits

J. Mott Rawlings, M. D.

### Women's Entertainment

Mrs. N. H. Keller (Chairman)  
Mrs. George Edwards (Co-Chairman  
for Wm. Beaumont Hospital)

## CONCURRENT MEETINGS

### Friday, November 10

12 Noon

### Board of Managers, SOUTHWESTERN

MEDICINE.....Private Dining Room 340  
(Paul Gallagher, M. D., presiding)

### Friday, November 10

2:30 p. m.

### Southwestern Academy of Eye, Ear, Nose

and Throat.....Mezzanine Tea Room  
(Dake Biddle, M. D., presiding)

## PAST PRESIDENTS

Honorary Life President.....	Dr. W. L. Brown, El Paso
1913	Dr. S. D. Swope, Deming (now of El Paso)
1914	Dr. R. L. Ramey, El Paso*
1915	Dr. John E. Bacon, Miami, Arizona
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1918	No Meeting.
1919	Dr. P. G. Cornish, Sr., Albuquerque*
1920	Dr. Warner Watkins, Phoenix
1921	Dr. James Vance, El Paso
1922	Dr. M. K. Wylder, Albuquerque
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1931	Dr. W. R. Jamieson, El Paso
1932	Dr. W. R. Jamieson, El Paso (Second term on account of change in Constitution)
1933	Dr. F. D. Vickers, Deming
1934	Dr. W. A. Gekler, Albuquerque
1935	Dr. David M. Davis, Phoenix
1936	Dr. James J. Gorman, El Paso
1937	Dr. C. R. Swackhamer, Superior
1938	Dr. Leroy S. Peters, Albuquerque

\* Deceased

## ENTERTAINMENT

### Thursday, November 9

12:30 p. m.—Luncheon (Cortez Roof)  
(R. B. Homan, Jr., presiding)

#### Discussions:

1. Dr. Leo Eloesser....."The Acute Abdomen."
2. Dr. M. Y. Dabney....."Office Gynecology."

7:00 p. m.—Buffet Supper (Cortez Roof)  
(Courtesy El Paso County Medical Society)  
(James J. Gorman, M. D., presiding)

#### Discussions:

1. Dr. Leo Eloesser....."Treatment of Cancer of the Breast by Combined Irradiation and Operation."
2. Dr. Fred Albee.....Colored Movies of Recent European Trip.

### Friday, November 9

12:30 p. m.—Luncheon (Cortez Roof)  
(Felix P. Miller, presiding.)

#### Discussions:

1. Dr. H. M. Winans....."Diagnosis and Treatment of Headache."
2. Dr. Charles F. McCuskey....."Oxygen and Helium Therapy."

8:00 p. m.—Cocktail Party and  
Dinner Dance (Cortez Roof)  
(Gerald Jordan, M. D., presiding)

### Saturday, November 11

12:30 p. m.—Luncheon (Cortez Roof)  
(W. R. Jamieson, M. D., presiding)

Parting Salutations.

## FOOTBALL

Texas College of Mines

- vs. -

University of Arizona

Kidd Field

2:30 P. M.

(A Border Conference Game)

## SCIENTIFIC PROGRAM

### Thursday, November 9, 1939

#### MORNING SESSION

Crystal Ballroom

9:00 A. M.

Opening Address.....Dr. D. M. Wiggins  
President Texas College of Mines  
(Branch of University of Texas)

"Longevity in Retrospect and in Prospect".....  
.....Howell Randolph, M. D.  
President, Southwestern Medical Association

"Diagnosis of Obscure Cases of Anemia.....  
.....Henry M. Winans, M. D.

"The Importance of Understanding Water Balance and  
the Technic for Measuring It".....  
.....L. H. Newburgh, M. D.

10:30 A. M.

#### MEDICAL MARCH OF TIME

(Section of Program by Charter Members of the  
Association)

W. Warner Watkins, M. D., presiding.

S. D. Swope, M. D., El Paso:—  
"The Origin and Destiny of the Southwestern Medical Association."

Looking Backward Forty Years.

John E. Bacon, M. D., Miami, Arizona:  
"Highlights in the Development of Industrial  
Surgery."

During the Past Forty Years.

M. K. Wylder, M. D., Albuquerque:  
"Twenty-five Years in Pediatrics."

G. Werley, M. D., El Paso:  
"Our Ideas About Heart Disease Twenty-five Years  
Ago and Now."

LUNCH—12:30

#### ROUND TABLE DISCUSSIONS

Cortez Roof

#### AFTERNOON SESSION

2:15 P. M.

Crystal Ballroom

Recent Advances in the Surgical Relief of Deafness  
.....Julius Lempert, M. D.

Anesthetic Procedures in Upper Abdominal Surgery.....  
.....Charles F. McCuskey, M. D.

The Significance of Convulsions.....  
.....Samuel D. Ingham, M. D.

Dyspareunia.....M. P. Dabney, M. D.

#### NIGHT SESSION

8:00 P. M.

Cortez Roof

Buffet Supper.....Courtesy El Paso Co. Medical Society

Treatment of Cancer of the Breast by Combined  
Irradiation and Operation.....Leo Eloesser, M. D.

Movies in Color.....Fred H. Albee, M. D.

### Friday, November 10, 1939

#### MORNING SESSION

8:30 A. M.

Crystal Ballroom

Clinical and Clinical Pathological Conferences.

Medical:—Conducted by Dr. Henry M. Winans, assisted  
by Dr. J. Mott Rawlings.

Surgical—Conducted by Dr. Leo Eloesser (Empyema  
Cases).

Orthopedic—Conducted by Dr. Fred Albee, assisted by  
Dr. Louis Breck.



9:30 A. M.

Edema.....L. H. Newburgh, M. D.

#### MEDICAL MARCH OF TIME

(Presented by Charter Members of the Association.)

W. Warner Watkins, M. D., presiding

E. Payne Palmer, M. D., Phoenix

"Cancer Twenty-five Years Ago and Now."

James Vance, M. D., El Paso

"Thirty Years' Observation of Intestinal Obstruction."

L. S. Peters, M. D., Albuquerque

"Changing Concepts About Tuberculosis in Twenty-five Years."

John W. Cathcart, M. D., El Paso

"One-third of a Century of X-ray Progress"

Annual Business Meeting of Association—  
Election of Officers.

LUNCH—12:30

ROUND TABLE DISCUSSIONS

Cortez Roof

#### AFTERNOON SESSION

2:15 P. M.

Crystal Ballroom

Problems Involved in the Diagnosis of Coronary Disease.....Henry M. Winans, M. D.

Bacteriophage in Infections, Particularly that of Bones and Joints.....Fred H. Albee, M. D.

The Use of Hormones in Gynecology.....M. Y. Dabney, M. D.

Water Disturbance in Obesity.....L. H. Newburgh, M. D.

#### NIGHT SESSION

8:00 P. M.

Cocktail Party and Dinner Dance.....Cortez Roof

#### Saturday, November 11, 1939

##### MORNING SESSION ONLY

8:30 A. M.

Crystal Ballroom

Clinical Conferences

Neurological and Psychiatric: Conducted by Dr. Samuel D. Ingham, Remarks on Insulin and Metrazol Treatments.

#### GENERAL ASSEMBLY

9:30 A. M.

Diabetes in Nineteen Thirty-Nine.....L. H. Newburgh, M. D.

The Common Cold.....Henry M. Winans, M. D.

#### MEDICAL MARCH OF TIME

(Presented by Charter Members of the Association)

W. Warner Watkins, M. D., presiding.

Willis W. Waite, M. D., El Paso

"Past ( Present and Future of the Clinical Laboratory."

Kelvin D. Lynch, M. D., El Paso

"Twenty-Five Years of Urology in the Southwest"

Felix P. Miller, M. D., El Paso

"Twenty-five Years in Surgery of the Chest."

W. R. Jamieson, M. D., El Paso

"The Medical Reserve Corps" And reminder that this is Armistice Day.

LUNCH—12:30

Cortez Roof

Orville Egbert, M. D., presiding.

Adios!

## Women's Auxiliary Entertainment Program

#### Thursday, November 9

1:00 P. M.—Luncheon

Gold Room, Hotel Paso Del Norte  
(Mrs. Gerald Jordan, presiding)

Address:—Dr. Henry Winans, Dallas.

6:30 P. M.—Progressive Dinner

Hostesses: Mrs. W. E. Vandevere, Mrs.  
J. W. Cathcart, Mrs. Felix P. Miller, Mrs.  
K. D. Lynch.

(The men are invited to join their ladies  
at the home of Mrs. Lynch.)

#### Friday, November 10

3:00 P. M.—Sightseeing Trip to Wm. Beaumont  
General Hospital (U. S. Army) with Tea  
at the home of Mrs. George Edwards.

8:00 P. M.—Cocktail Party and Dinner Dance,  
Cortez Roof.

#### Saturday, November 11

12:00 Noon—Luncheon, Coffee Shop, Cortez  
(Mrs. Sam Rennick, presiding.)

## Technical Exhibitors

Meade Johnson Co.

Park Bishop Co.

Westinghouse Electric

Borden's Dairy

Lederle Laboratories, Inc.

Southwest Surgical Supply Co.

General Electric X-ray

John Wyeth & Brother

J. A. Majors Co.

Luzier's Cosmetics

Cutter Laboratories

Endo-Cardiograph Co.

## Scientific Exhibitors

Drs. B. L. Wyatt—Tucson

Dr. J. W. Myers—Albuquerque

Dr. Wm. E. Vandevere & Dr. M. P. Spearman—El Paso

Dr. John Cathcart—El Paso

Dr. W. W. Waite—El Paso

Dr. Norman Giere—El Paso

Dr. Ralph H. Homan—El Paso

Dr. Ralph M. Stuck—Denver, Colo.

Dr. Joseph Bank—Phoenix

Dr. O. J. Farness—Tucson

Dr. E. Payne Palmer—Phoenix

Dr. Orville H. Brown—Phoenix

Dr. Felix P. Miller—El Paso

Dr. L. O. Dutton—El Paso

Dr. Leslie Smith & Raymond Hughes—El Paso

Dr. Louis Breck & Eugene Secord—El Paso

Dr. A. W. Multhaupt—El Paso

Col. Wm. Schwartz, M. C., U. S. Army—Wm. Beaumont  
Hospital

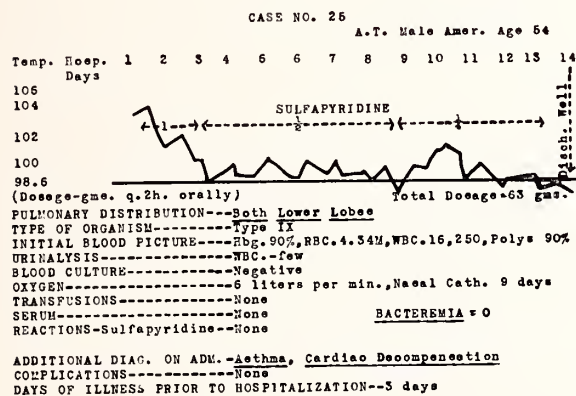
Dr. Frank C. Goodwin—El Paso

died, the other three cases, with combined treatment, got well.

### DISCUSSION

Serum has never been used previously in this hospital and the only other outstanding therapeutic aid given the pneumonia patient in this hospital in recent years has been the administration of oxygen. A noticeable reduction of mortality was achieved with oxygen, but nothing like the low mortality achieved in this group of sulfapyridine treated patients has been seen before in the City-County Hospital of El Paso. The amazingly quick relief from toxic symptoms, despite the continuation of physical signs (indicative of pneumococcal consolidation) is the outstanding feature, clinically, of sulfapyridine administration.

Not included in this series are two cases of pneumococci meningitis, one of whom got well and the other died—both treated with sulfapyridine. Commenting on the use of serum with the drug, we definitely feel that the serum was beneficial to the three cases that survived who received it in addition to the drug. These cases might have perished if the serum were not also administered. Equally life-saving were the transfusions given to seven of the cases who either by reason of their infection, or the drug, suffered a marked grade of anemia. This was relieved by the transfusions. Two others received four transfusions each and one case had three transfusions. In all seventeen cases received oxygen and this from a metabolic standpoint, and from experience in the past years, we feel is very definitely indicated in all toxic cases showing high temperatures, high pulse rates, and high respiratory rates. It definitely helps to reduce the hyper-



Typical of about one-half of cases seen by us. More severe complications and more extensive lobar involvement. Patient needed oxygen also. Total dosage of Sulfapyridine definitely increased. Patient discharged well.

pyrexia and exerts a beneficial effect on the general condition.

Our patients received oxygen, completely humidified, through the Tomac Insufflator via a nasal catheter. It is our hope that in the future we may have the nasal or oronasal mask of the Boothby-Lovelace-Bulbulian<sup>10</sup> type for use.

### TABLES

Table I—Ages

8 Patients under the age of 20 are as follows:	
Age 12 years—2 cases	Age 20-30—3 cases
Age 16 years—1 case	Age 31-40—8 cases
Age 17 years—4 cases	Age 41-50—4 cases
Age 18 years—1 case	Age 51-60—3 cases
	Over 70 —1 case

Table II—Sex

Number of Males	21
Number of Females	9

Table III—Pulmonary Distribution

Broncho-Pneumonias	6 cases
Lobar Pneumonias	24 cases
Distribution of Lobar Pneumonias:	
Entire left lung involved	5 cases
Three lobes involved	2 cases
Both lower lobes involved	2 cases
One lobe involved only	15 cases

Table IV—Etiology of The Pneumonias

By sputum or blood culture, Pneumococci were found in 28 of the 30 cases of Pneumonia. Lobar or Bronchial. Case No. 22. Pneumococci not identified. No. 9 Pneumococci not found. One death in the 28 cases of Pneumococcal proved pneumonias, giving a mortality on proved Pneumococcal Pneumonias of 3.93%.

Type

IV—2	3 cases do not show types:
VI—2	No. 16 pos. for pneumococci but not typed.
VII—5	No. 22 not checked for pneumococci but unquestioned lobar pneumonia present. X-ray positive.
VIII—1	No. 23 blood culture positive for pneumococci but sputum not typed.
IX—3	
XI—1	
XII—1	
XIV—1	TB
XV—1	No. 9 Pneumococci not found. No note as to TB.
XVIII—1	
XIX—3	No. 15 Pneumococci Type XV, and TB Bacilli.
XXIII—2	
XXIV—2	No. 29 Two types Pneumococci, VII and XXIX, no TB Bacilli, autopsy proved TB.
XXIX—1	

(One case had 2 types, Case No. 29, Types VII and XXIX.)

Table V—Complications

Rheumatic Heart Disease	Asthma
Syphilis	Septic Abortion
Amebiasis	Lung Abscess
Tuberculosis	Ascites
Post-operative Infection	Syphilitic Aneurysm of Aorta
Pyelo-Nephritis	Pyelitis
	Heart Failure

Ten of the cases showed some degree of Heart Failure.

Six cases showed some degree of Pyelitis.

Three cases had Tuberculosis.

Two had active Syphilis.

One had Pregnancy.

Seven cases out of thirty showed no complications.

Table VI—Dosage

Dosage in relation to Severity of Case:	Average Dosage
1. Cases complicated by Tuberculosis (Nos. 9, 29, and 20.)	3 cases 57.66 grams
2. Cases showing very severe complications (Nos. 1, 13, and 30.)	3 cases 70.00 grams
3. Case No. 10—Sulfanilamide treated case	1 case 33.00 grams
4. Cases showing positive Bacteremia (Nos. 1, 2, 8, 11, 17, 21, and 23.)	7 cases 44.32 grams
5. Cases showing negative Bacteremia (Nos. 10, 12, 14, 15, 18, 19, 20, 22, 24, 25, 26, 27, 28, and 29)	14 cases 39.23 grams
6. Cases with no blood culture taken (Nos. 3, 4, 5, 6, 7, 9, 13, 16, and 30.)	9 cases 35.13 grams
7. Cases with minimal involvement and minimal complications (Nos. 3, 5, 6, 7, 8, 10, 11, 12, 15, 18, 22, 24, 26, 27, and 28.)	15 cases 22.11 grams
Average dosage, all cases	39.19 grams.

Table VII—Reactions to Sulfapyridine

Nausea and vomiting	17 cases
Nausea only	1 case
Nausea and Urticaria	1 case
No reaction whatever	11 cases

Table VIII

Notations on treatment:

OXYGEN ADMINISTERED—SEVENTEEN CASES

Nasal Catheter. Average amount—6 Liters per minute.

Five cases received oxygen for 2 days. (Cases Nos. 9, 14, 22, 26 and 28.)

Two cases received oxygen for 4 days. (Cases Nos. 5 and 21.)

Four cases received oxygen for 5 days. (Cases Nos. 12, 19, 23 and 30.)

One case each received oxygen for 6, 7, 9, 11, 19, and 40 days respectively. (Cases Nos. 13, 4, 25, 16, 1 and 29 respectively.)

Table IX.  
TRANSFUSIONS—SEVEN CASES.

Group I	Case No.	Amount given
	29	1 of 400 cc., 4 of 500 cc. each and
(Deceased)	1 of 350 cc.	6 times



Group II	1	4 of 500 cc. each.....	4 times
	13	1 of 400 cc., and 2 of 500 cc. each.....	3 times
	30	2 of 500 cc. each, 1 of 400 cc., and 1 of 300 cc.	
Group III	10	50 cc.—severe reaction.....	1 time
		1 of 300 cc.	4 times
Group VI	4	500 cc.	1 time
	16	500 cc.	1 time

Table X.  
SERUM—FOUR CASES

Case No.	Amount given
Group I	29 1 of 200,000 Units Type VII. and 5 of 100,000 Units each time of Type XXIX.....
	(Deceased) 6 times
Group II	1 1 of 160,000 Units Type VII. and 2 of 100,000 Units each time Type VII.....
	13 1 of 200,000 Units Non-Spec., and 2 of 100,000 Units each time of Type XXIII.....
	30 100,000 Units Type VII.....

Table XI.

On the basis of dosage, the cases are divided into three classes:

Class A—Deaths—TWO CASES—Average dosage, Sulfapyridine, 62 grams.

Class B—Severer Cases showing (1) severe complications, (2), severe Bacteremia, and or (3) two or more lobes involved—THIRTEEN IN NUMBER—with dosage 35 grams or more each—Average dosage, Sulfapyridine—55.38 grams. (Exception: one case had no complications, no Bacteremia, and only one lobe involved, yet received 37.5 grams.)

Class C—Milder Cases—FIFTEEN IN NUMBER—with dosage 33 grams or less—Average dosage, Sulfapyridine—22.11 grams. All mild but one. Four Bronchial and Eleven Lobar Pneumonias. (Exception: The eleventh lobar, Case No. 15, with entire left lung involved, entered on the fifth day, but had a white blood count of 30,500, no complications, total dosage of Sulfapyridine—31.5 grams.)

TABLE XI.  
TABLE OF THE THIRTY CASES

Case Number	Class	Sex	Age	Days of Illness Prior to Entry	Type Involvement and Lung Distribution	Complications	Dosage - Grams Sulfapyridine
1	B	Male	24	30	Lobar 3 lobes	Bacteremia, Syphilis, Amebiasis, Heart Failure	75.00
2	B	Male	51	14	Lobar 1 lobe	Bacteremia	49.50
3	C	Male	67	2	Bronchial	None	12.25
4	B	Male	16	7	Lobar left lung	Rheumatic Heart Disease	40.50
5	C	Male	42	2	Lobar 1 lobe	Luetic Aneurysm of Aorta Heart Failure	21.00
6	C	Male	62	3	Lobar 1 lobe	Heart Failure, Mild	4.00
7	C	Male	58	7	Lobar 1 lobe	Heart Failure, Mild	16.50
8	C	Male	17	8	Lobar 1 lobe	Bacteremia, Pyelitis—Mild	7.75
9	A	Female	23	21	Bronchial	Tuberculosis—Died	23.00
10	C	Female	34	3	Bronchial	Heart Failure, Mild	33.00
11	C	Male	48	2	Bronchial	Bacteremia	19.00
12	C	Female	40	7	Lobar 1 lobe	Heart Failure, Mild	21.00
13	B	Female	40	8	Lobar 2 lobes	Post-operative infection Pyelitis	46.00
14	B	Male	43	7	Lobar 1 lobe	None	37.50
15	C	Male	53	5	Lobar left lung	None	31.50
16	B	Female	46	1	Bronchial	Severe Heart Failure with Ascites	64.00
17	B	Male	17	4	Lobar 1 lobe	Bacteremia	48.00
18	C	Male	75	6	Bronchial	Heart Failure, Pyelitis—Mild	21.00
19	B	Female	32	5	Lobar 1 lobe	Pyelo-Nephritis	47.50
20	B	Male	20	3	Lobar 1 lobe	Pulmonary Tuberculosis with Cavitation	49.00
21	B	Female	33	3	Lobar left lung	Bacteremia, other complications—none	75.00
22	C	Male	33	4	Lobar 1 lobe	None	28.50
23	B	Female	34	4	Lobar left lung	Bacteremia positive Pregnancy, Pyelitis	36.00
24	C	Male	17	5	Lobar 1 lobe	Heart Failure	31.00
25	B	Male	54	3	Lobar both lower	Asthma and Heart Failure Severe	63.00
26	C	Male	12	1	Lobar 1 lobe	None	28.75
27	C	Male	17	8	Lobar 1 lobe	None	28.50
28	C	Male	18	0	Lobar 1 lobe	None	28.00
29	A	Female	36	7	Lobar 3 lobes	Septic Abortion, Pyelitis, Thrombo-Phlebitis, Pulmonary Tuberculosis, Lung Abscess - Died	101.00
30	B	Male	12	12	Lobar left lung	Empyema	89.00

### SUMMARY

Thirty cases of pneumonia, 6 bronchial, and 24 lobar, treated with Sulfapyridine, are reported.

Mortality, two deaths. Percentage, 6.66%. Both deaths had tuberculosis as complications. All cases with pneumonia admitted during the two months of February and March, 1939, were treated with Sulfapyridine. All other helps in addition to Sulfapyridine were used where it was felt to be of any value. Oxygen was given to seventeen cases, transfusions to seven cases, and serum to four cases, additionally. Out of twenty-one cases where blood cultures were taken, seven had positive Bacteremia and fourteen were negative.

Four-fifths of the patients had complications of varying grades. Average dose of Sulfapyridine, all cases, was 39.19 grams, but for the mild cases showing minimal complications, 22.11 grams. Largest dose given was 101 grams, smallest, 4 grams. It is to be noted that very large doses of serum were given where any at all was administered. This was done because the patients were critically and seriously ill, and it was felt that the transfer of antibodies would be of great value to them. While not listed here in the charts, the white blood counts were extremely helpful in following our patients, and when there was any indication of white counts being low and the patient's condition not otherwise good, transfusions and serum were used. For lack of space charts of all cases are not included.

One danger resulting from the use of the drug, in addition to the gastric disturbance, is seemingly an evident depression of Erythrocytic formation or destruction of red blood cells. We made no attempt to differentiate between these two possibilities. There seemed to be no definite depression of the white blood cells so far as we could determine. In our opinion, we do not feel that any renal complications could be attributed to the drug.

The drug, Sulfapyridine, is evidently of specific value in the treatment of Pneumococcal Pneumonias either of Bronchial or Lobar distribution. By blood culture or sputum typing, we had 28 proven cases of Pneumococcal Pneumonias in our series of 30 cases. Of these proven cases all but one got well, and that case had advanced bilateral pulmonary tuberculosis and a lung abscess besides pneumonia. This gives a final mortality of but 3.93% of our proven 28 cases. This, we feel, speaks stronger than any other evidence we could produce for the efficacy of Sulfapyridine in overcoming Pneumococcal infections.

The mode of administration of Sulfapyridine is also of very distinct value, in that it has been shown that it is necessary to keep the concentration at a proper level to obtain the maximum benefit of the drug. To obtain this end we gave the drug at intervals of two hours commencing with 1 gram every two hours for the first twenty-four to forty-eight hours, reducing to half this dose the next two to five days, thereafter one-fourth this dose. When this course was not followed and less drug was given it was our observation that a recurrence of the symptoms occurred in the severer cases. The only untoward result in our cases was the presence of a very definite anemia. This occurred altogether

in seven cases only, or about 25% of all cases. Not shown on these charts is the amazingly quick drop of the temperatures to normal levels within thirty-six to forty-eight hours in the majority of cases, even though lung symptoms and signs still persisted. The patient's toxicity in all cases was vastly improved within this period after the initial commencement of the drug.

### CONCLUSION

In conclusion it is our feeling that cases of pneumonia—both lobar and bronchial that heretobore may have been considered completely hopeless by older methods of treatment, can, by the combined use of six measures have a much greater likelihood of living. These measures consist of:

1. Sulfapyridine—Early commencement to all cases.
2. Oxygen—Where temperature is 101.5° or above, pulse over 120, and respiration over 24 p.m.
3. Fluids—Adequate use with glucose and saline where indicated.
4. Digitalization—Of all heart failures.
5. Serum—Given in large amounts in all critical cases.
6. Transfusions—Adequate use where anemia is present.

Two other general procedures that should not be neglected are the use of liver extract in cases of Leucopenia and the use of Cevitamic Acid, Thi-

amin Chloride (B<sub>1</sub>), Riboflavin (B<sub>2</sub>), and small amounts of Nicotinic Acid in many of the borderline avitaminosis cases or where general bodily metabolism is not working as well as one would like.

Roberts-Banner Bldg.

### Foot Notes:

The drug was furnished to the hospital through the courtesy of Merck and Company and the Calco Chemical Company, both of New Jersey.

Many thanks are due to Dr. A. H. Butler, Superintendent of the City-County Hospital, for permission to use Sulfapyridine and for placing all facilities of the hospital at the disposal of the authors for the complete and full care of the pneumonia patients, and for adequately furnishing serum and oxygen as well as placing the laboratory and its facilities at our disposal.

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## Impaired Nasal Ventilation in the Adult

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THE causative factors of impaired nasal ventilation are legion. A brief outline will suffice to cover the main divisions.

### CAUSES

#### (A) MECHANICAL

- (1) Structural defects-deviated nasal septum.
- (2) Developmental defects.
- (3) Traumatic injuries.
- (4) Rare instances of incarcerated foreign bodies.

#### (B) PATHOLOGICAL

- (1) Chronic catarrhal condition.
- (2) Chronic sinusitis.
- (3) Chronic infections-tuberculosis, syphilis, rhinoscleroma.

#### (C) NEOPLASMS

- (1) Benign lesions, polyps, fibromata, etc.
- (2) Malignant lesions, carcinoma, sarcoma, endothelioma.

#### (D) PHYSIOLOGICAL

- (1) Allergy-vasomotor instability-hyperesthetic rhinitis.
- (2) Diet.
- (3) Glandular dysfunction.

The complaint of impaired nasal ventilation is very common. It is frequently a chronic condition. Therefore, no branch of medical practice can entirely free itself from contact with representatives of the horde of people whose chief complaint or secondary complaint is a "stuffy nose". The diagnosis of the cause and the treatment may be quite foreign to your chosen specialty, yet it is not uncommon to find that even those who in their practice isolate themselves in rather remote sections of the anatomy, succumb to the call of a human in need of help and toss over the desk one or more of the ever present samples with the injunction to try it for a while and see how it works. The results obtained, if any, are palliative and since the condition is chronic, there is the necessity of repetition. After a time, even the most stupid patient realizes that no definite progress has been made. The next reaction of the individual is to be vindictive and does not confine itself to the donor's ability to successfully and permanently cure poor nasal ventilation. The criticism frequently includes all of the donor's medical activities. This is the usual reward for giving free advice and medicine.

The diagnosis of all the above conditions except those under the classification of physiological is more or less readily accomplished by examination



before and after the use of one of the shrinking agents. One should make use of the knowledge of a well trained laboratory worker in those instances wherein accurate determination of the bacterial flora or cytologic content of the secretions is essential. Biopsy of all suspicious neoplasms is imperative and a histopathological report from any one other than the best trained pathologist available is of no value. Even then there are times when the opinions of two or more pathologists are advantageous for both the doctor and the patient. One should avail oneself of roentgenograms in all cases of chronic sinusitis. The films should be clear cut and show soft tissue structures such as polyps or cysts in the maxillary antrum. The ultimate decision as to the presence or absence of pathology in the sinuses should not rest in the hands of the roentgenologist. The otolaryngologist should acquaint himself with the reading of x-ray films so that when the envelope containing the films and the report arrives, his first act is to look over the films and evaluate his findings for himself and then for corroboration or criticism, read the written report. It is not fair to all concerned to expect the roentgenologist to make a complete and accurate diagnosis on all pathological conditions when he has been given no clinical findings nor past history to aid in the decision. It is not uncommon to receive a report of pan-sinusitis in a patient suffering with an acute allergic upset. To be sure, the sinuses are all grey and show evident lack of ventilation and present all the criteria necessary for the diagnosis, but if the x-rays be repeated a day or so later when the allergic manifestations have disappeared, it will be found that the sinuses are clear and normal. The use of radio-opaque contrast media in the sinuses is not necessary when technically adequate films are available. There are few occasions when the time spent in taking a rather full history does not net results. There is no point in even suggesting a brief outline of how this should be accomplished. Each one must work out a routine for himself. There are certain points that have to be covered. The sequence arrangement is of no interest to anyone except the individual who is taking the history. There are two points that should be kept in mind. First, that the data be as accurate as possible and that a permanent record be made and kept no matter how minor the complaint may seem to be at the time. Second, that one takes a few minutes once or twice a year and checks up on how much value these permanent records are and how much they have contributed in taking care of the patient. If they have not been profitable, something should be done about it.

While on this subject, one further suggestion. It does happen from time to time that a patient does not seem to be making the progress that you expect. The patient may be satisfied at the moment but you are not satisfied. It is then time to turn the history findings and treatment record face

down and start anew. That means, start right from the very beginning with a complete examination, complete history, serology that may have been neglected and all the other things one may consider necessary. It is often amazing to find that certain now very obvious findings were overlooked, that what appeared to be a complicated set-up is really quite simple, and that there really is an answer to what seemed like a difficult, if not, unsolvable problem. This going back and starting over again is not an easy thing to do, but when necessary, it nets results and diminishes the number of patients who wander away dissatisfied. There is an irreducible minimum who will not be benefitted, but it should be small.

#### DISCUSSION

After the diagnosis is made, the treatment is usually self evident. There is only one consideration that is of prime importance and that is, that the diagnosis be correct. The mere fact that a nasal septum is not perfectly straight and in the midline is not of itself sufficient indication for surgical intervention. The symmetrical arrangement of the interior of the nose is not always essential to maintain adequate function. Before surgery is advised, one should consider the advantages to be obtained by the patient as weighed against the financial and physical hazards that must attend the procedure. If the balance does not swing definitely in favor of the advantages, it is more than foolhardy to advise operative intervention. There are a few points that bear refreshing in the memory of some and impression on the memories of others. First is the prescribing of the drug cocaine. There is no excuse to prescribe it in any concentration no matter however small for any patient for home use in the form of drops, spray, ointment or worst of all, as a powder diluted with other drugs and lactose to be used as a snuff. It is insidious in its habit formation. There is no tangible reason why it should be prescribed. The drug has a very definite place in one's office and in the surgery, but even in these two places, its widespread use can be diminished by the judicious use of the now available substitutes. Second is the fact that it is no longer necessary and certainly not advisable to ruthlessly remove inferior and middle turbinates. A number of the standard texts still devote pages to the details of the procedures for turbinectomy in spite of the fact that the preface assures one that the volume has been completely revised and all obsolete and detrimental procedures have been deleted. The mucous membrane of one's nose, no matter how poor, is a priceless possession. It is of a fixed amount and cannot be replaced. Procedures that destroy it are bound to interfere with the normal physiology of the nose and this results in a most unhappy, if not definitely ill patient. The destruction of functional mucosa of the nose with its subsequent impairment of physiology has been and is the greatest source of the complaint made so frequently by both patients and their family doctors that intra nasal procedures are

not only of no value but they frequently make the condition worse.

It is repeated for the sake of emphasis that the function of the nose depends upon the presence of the mucous membrane lining. The mucosa of the lateral walls, that which covers the turbinated bones, is vastly more important than that covering the nasal septum. There are certain definite indications for surgical intervention and when they are present only surgery will help. The fact that these indications are present should not give one free rein to commit meddlesome destructive surgery. Nor should it permit one to construct additional monuments to surgery when one knows full well that the ultimate function will be almost nil, due to the fact that the possibility of normal physiologic action has been destroyed. Any and all the necessary surgical procedures can be done and still leave a physiologically correct nose. Great strides have been made in the construction of air conditioning units, but until such time as the efficiency and portability is equal to that of one's nose, I recommend that we adhere to keeping the original model intact. Surgery is not the sole offender in this category. The chemicals, silver nitrate, trichloroacetic acid, phenol, chromic acid, as well as electro-coagulation and the actual cautery, have all contributed their bit. Thus far, the physiological causes of impaired nasal ventilation have been purposely evaded because the available knowledge on the subject is not at all complete in spite of the fact that the available literature is richly endowed with articles on the subjects. The literature on the subject of nasal allergy alone is sufficient to keep one busy. It is impossible to keep up with that of the entire field. Allergic, dietetic and other chronic involvements of the gastro-intestinal tract as causative factors are purposely not going to be discussed because I have nothing constructive to offer. That leaves only the subject of glandular dysfunction. Fortunately, it has not been popularized as yet, therefore it should be of interest to all. The hypothetical individual typical of this classification is somewhere between the ages of 25 and 50; is normal in most all respects as has been ascertained by his family doctor and such abnormalities as do exist have no bearing on the complaint referable to his nose. The main complaint is that the nose is stuffy, also there is an annoying amount of post nasal discharge more pronounced in the morning. This discharge is clear and tenacious. Considerable effort is expended in getting rid of it and in attempting to make the nasal passages feel clear. Examination reveals little except that the mucous membrane of the turbinates is relaxed, boggy and perhaps a little more pale than one would consider normal. The tissues react promptly to any and all the shrinking agents and reveals the absence of any mechanical reason for the difficulty. All in all, it is a pretty normal nose except that it does not function properly.

It is seldom that you are the first one to be con-

sulted in regard to this problem, so there is often much information obtainable. X-rays taken within a reasonable period and after the last upper respiratory infection report that the accessory nasal sinuses are clear and free of any evidence of pathology and when actually seen, they show this to be the case. The other usual laboratory reports are equally of little value. There is a history of a long or short course of treatment that seemed to be of some benefit at the time but was of no permanent value. The drops or sprays that were prescribed at one time or another met a similar lack of permanent response. The individual frequently mentions the fact that fatigue is present in an amount that is inordinate with the amount of energy expended. At other times this information is obtained only after specific questioning. This is often the first bit of helpful information. An increase in weight may or may not be present. Further questioning usually reveals the fact that the basal metabolic rate has not been checked. If the individual has a family physician the proper procedure is to have the patient return to his doctor and have this test done. The result frequently shows that the basal metabolic rate is -4 or -6 or -8, and now the trouble begins. One is assured by the physician or the laboratory that this deviation is within the -10 to plus 10 limits of normal deviations and that the individual is within this range and therefore not a candidate for thyroid therapy. Unfortunately, one should not agree with this decision. Any minus reading should be given definite consideration. No one presents himself for the first time for a basal test with a mind and body at complete rest in spite of the fact that the technician assures one that it is a simple procedure, that it will not hurt, and that after a period of rest, where one lies in a horizontal position and thinks all sorts of things not conducive of mental calm, all one has to do is to breathe quietly and normally through one's mouth that has been hooked up with some mechanical contrivance. It is not uncommon to find that the individual who lives some distance from the laboratory has had to arise one to three hours earlier than is usual to arrive in time for the 8:00 a. m. appointment. There are numerous factors other than the psychic ones that are never taken into consideration. If you belong to the die hard group and are not easily convinced that these above mentioned facts play a definite role, hospitalize a few of the -4 or -6 patients and have the test repeated on five consecutive mornings. This has been done and the results are quite illuminating in that frequently there is an average two point per day drop. Thus we find that the -4 or -6 is really a -14 or -16. Even after presenting these facts, it is often difficult to get the medical men to prescribe a little thyroid. I feel definitely that this is the medical man's task and does not belong in the armamentarium of the otorhinolaryngologist. If the facts and figures are not sufficient to convince the medical man one must resort to other means in order that the patient



receive  $\frac{1}{2}$  grain tablets of thyroid two to three times daily.

The results obtained are frequently striking and more far reaching than anticipated. The time factor plays a definite role. It is seldom that any marked change is noted under a week to ten days time. After that we may look forward to definite improvement in tone of the nasal mucous membrane to say nothing of a marked improvement in general well being. This latter is only natural when one comes to consider that this individual has been carrying on for a considerable period of time under somewhat of a handicap. One should not become impatient and push the therapy to a point of intolerance in an effort to obtain more rapid response. The next question that naturally arises is how long must one continue to take the thyroid? That is an individual problem and only trial and error will produce a satisfactory answer.

#### SUMMARY AND CONCLUSIONS

The main causative factors for impaired nasal ventilation were outlined and except for one group were given no further consideration because the treatment is well established and warrants no further discussion other than variations in technical approach which is not the subject at hand.

The importance of maintaining physiologically correct nasal passages and structures was stressed and is again brought to your attention by mention-

ing that any and all surgical procedures necessary to improve ventilation, afford drainage and remove infected tissue can be done without the sacrifice of important structures or valuable mucous membrane.

The prescribing of cocaine in any form for self administration was stated as being inadvisable, hazardous to society in general due to its habit-forming properties and wholly unnecessary. This applies to all nose and throat complaints in general and to chronic conditions in particular.

There are a number of individuals whose main complaint is lack of ventilation who present no apparent reason for this complaint until the basal metabolic rate is ascertained. On first test this is frequently found to be only slightly minus. Subsequent tests will show that the individual is not within the limits of experimental error. Any minus reading warrants detailed consideration. This is a fact that is not generally recognized. Specific glandular therapy results in complete elimination of the complaint. This brings to mind the fact that most of the nasal disorders due to physiological causes are merely local manifestations of a general complaint, and the treatment of local complaint cannot be other than temporary while the general condition persists.

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## Common Dermatoses

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THE purpose of this paper is to briefly enumerate the more common disorders of the skin and to discuss in a concise manner their treatment. Each one of these skin diseases should be recognized with relative ease by the physician in general practice, and he should be able to cure many if not most of them by relatively simple procedures.

#### IMPETIGO CONTAGIOSA

This common disorder of the skin occurs most frequently on the face as sharply defined exudative, superficial and crusted lesions. The condition may start in a small pustule or in an ordinary "cold sore". At times the disorder takes on an annular or circinate eruption and then may be mistaken for a ringworm infection. The hands are frequently involved by a pyoderma resembling impetigo but in such cases the condition is most often a complication of scabies. Impetigo of the nape of the neck in school children is practically diagnostic of head lice.

Bullous impetigo is practically confined to children. It is apt to be mistaken for pemphigus, which, however, is rarely seen except in adults. Impetigo of the newborn is more common than is realized and may appear in epidemic forms. Un-

less properly treated it may spread with extreme rapidity and in nursery epidemics the disease may be extremely serious. Any weeping, crusted superficial eruption in the newborn must be considered as impetigo and treated as such from the first discovery of such lesions.

In the treatment of impetigo, and this holds true for most pyodermias (skin conditions characterized by the formation of pus), the following measures are useful. Careful removal of the crusts and scales is indicated in most cases. This may be followed by painting the lesions twice daily with a 2% aqueous solution of gentian violet or a 3-5% aqueous solution of silver nitrate. Continuous wet dressings of an old French preparation known as Alibour water is an extremely useful measure.

R—Copper Sulphate ..... 1.6  
Zinc Sulphate ..... 5.6  
Saturated Camphor Water qsad ..... 240.0  
Sig: Dilute two tablespoonsful to a glass of water and use as a continuous wet dressing.

Ammoniated mercury ointment in strengths of 3 to 5% may be applied two to four times daily. Where the impetigo occurs secondary to a seborrhea or in cases of sensitivity to ammoniated mercury, 3 to 5% sulphur ointment is very valuable.

#### SCABIES

A typical scabies may be easily recognized by the fact that the disorder is extremely itchy, especial-

ly after the patient goes to bed, there are usually other cases in the immediate family and by the fact that the eruption has a predilection for the hands, flexor surfaces of the wrists, extensor surfaces of the elbows, anterior axillary folds, the central part of the abdomen and buttocks. The breasts are usually involved in women and the penis in men. The latter location is so common that one may safely state: any widespread itching eruption which is suspected of being scabies but does not involve the penis, is probably not scabies.

However, scabies is frequently atypical. The typical burrows about the hands may be absent in housewives whose hands are frequently immersed in soap and water, or in garage mechanics or others whose work brings them in contact with oil or grease. Another atypical form of scabies often presents itself masked as a pyoderma or an impetigo which occurs as the result of a secondary infection from scratching. A bilateral pustular infection of the hands, elbows or buttocks should arouse suspicion as to the underlying cause of the condition. In those who take frequent baths, the only manifestation may be nocturnal itching. The diagnosis is made easier by having such persons refrain from bathing for three or four days and then examining them. Finally scabies may be masked as hives or urticaria, in which case the tendency of the "hives" to come on after retiring is suggestive of an underlying scabies.

The treatment of scabies includes a hot bath with soap and water followed by some strong antiscabetic ointment which should be applied to the entire body, except the face and neck. This ointment for infants and young children may consist of 3-5% sulphur with an equal amount of balsam of Peru. In older children and adults the following ointment will be found satisfactory:

R—Betanaphthol .....	8.
Sublime Sulphur .....	16.
Balsam Peru .....	60.
Petrolatum .....	60.
Sig: Apply locally to entire body except face and neck for three consecutive nights.	

On the fourth morning the patient bathes again and puts on clean underclothes. The night clothes and bed linen are also changed.

#### ACNE VULGARIS

This disorder of the pilo-sebaceous apparatus occurs particularly during adolescence and is characterized by increased oiliness of the skin, blackheads, papules, pustules, and not infrequently by deep cystic lesions which after healing may produce atrophic scars or pits or hypertrophic scars or keloids.

As regards therapy, iodides, bromides and chocolate should be avoided. Local therapy should eliminate the scalp seborrhea and reduce the activity of the sebaceous glands in the affected areas. This may be accomplished by a modified lotio alba as follows:

R—a. Zinc sulphate .....	60.
Rose water .....	60.
b. Potassium sulphurette .....	15.
Rose water .....	60.
Mix A and B separately and then together.	
Sig: Apply to affected areas at bed time.	

Intravenous autogenous vaccines are of value in the deep pustular types.

#### PSORIASIS

This relatively common dermatosis is still to be regarded as having no known etiology. Various types of the disorder occur including the acute or guttate type, the subacute or nummular variety, and the chronic or inveterate type. The involvement of the scalp, extensor surfaces of the elbows and knees and the lower sacral area is most common.

The remedies used include Chrysarobin in from 1/2 to 5% strength, although this cannot be applied to the scalp. Sodium thiosulphate in 1.0 gram doses intravenously, together with eight to ten c.c. of whole blood intramuscularly, seems to hasten the disappearance of the lesions. A 5 to 20% ammoniated mercury ointment may be used on the scalp.

#### RINGWORM

Epidermophytosis of the feet involving particularly the toes is extremely common. It occurs in several types which vary from a mild interdigital scalding, or a sodden macerated type to a vesicular eczematoid eruption, and at times may produce marked hyperkeratosis or thickening of the soles of the feet. Recurrent attacks of erysipelas of the lower extremities occurs as a complication.

Recurrent eczematoid eruption of the hands are now known to have a close relationship to such fungus infections of the feet. Ordinarily the eruption on the hands, while it may closely simulate that of the feet, is not due to the actual presence of the organism. At the present time most of the cases are believed to be of an allergic nature and are spoken of as epidermophytids.

The genito-crural and peri-anal regions are also frequently involved and this is often secondary to a similar infection on the feet. Failure to treat the feet in such cases is responsible for the relapses which occur.

Involvement of the nails, either of the toes or fingers, is not uncommon, and such foci are also a frequent cause of relapse.

Annular erythematous lesions with clearing centers and slightly raised vesicular or crusted borders are very suggestive of ringworm infection of the smooth or glabrous skin.

Ringworm of the scalp is usually met with in children of the school age and is characterized by single or multiple round patches where the hair is apparently absent. Actually on close examination one finds that the hair is broken off close to the scalp. These hairs are easily removed by tweezers and examination of them under the microscope after soaking them in 20% sodium hydroxide reveals numerous spores. Pustular types of scalp ringworm occur and finally there is kerionic type characterized by one or more large bony carbuncle-like lesions from which pus exudes.

Therapy in most types of ringworm not compli-

(Continued on page 342)



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## NEW RESEARCH

Two interesting pieces of research are at present under way that may prove to be highly significant to medicine.

Workers at Rockefeller Institute, assuming that there exist microorganisms capable of attacking other bacteria, inoculate a sample of soil with pathogenic bacteria such as streptococci, staphylococci and pneumococci. After varying periods of time there are found in the soil certain spore-bearing bacilli, which are made into an extract. This extract seems capable of killing the strains of organisms originally introduced into the hermetically sealed test tube of earth.

Clinicians of Columbia University and Mount Sinai Hospital are experimenting with the administration of massive doses of neoarsphenamine in syphilis. Under ordinary methods it may take 6 to 8 weeks to give a patient a total of 5.0 gm. neoarsphenamine. Patients treated by the new method are put to bed, a continuous intravenous drip is begun, consisting of neoarsphenamine in 5% dextrose solution. Within 5 days the patient has received 5.0 gm. of the drug. The patient is then discharged as non-infectious. The first group of 25 patients show 87% apparent cures after a period of 6 years. Toxic reactions to the treatment were mild. Over 200 patients have been so treated. The economic and public health implications of this method are far-reaching.

So is science striving to save men's lives—that they may be ordered into war and death by the politicians!

## PROGRESSIVE PLANNING

As the problems of organized medicine increase in their complexity, an increasingly alert leadership is needed. Because medicine is organized as a democracy it is highly necessary that the general membership be fully acquainted with the organization's problems and the proposed solutions offered by the leaders. One of the best ways by which this may be accomplished has long been known to be frequent discussions and conferences between officers of local societies and the officers of state organizations.

Recently it was announced by Dr. Charles S. Smith, President of the Arizona State Medical Association, that the state officials of Arizona plan to hold several conferences in various communities with local officials. It would seem that the coordination of effort and of policy thus fostered should bring only benefit to the entire organized profession of Arizona. May full success attend the deliberations of these official conferences. The progressive planning of Arizona physicians is to be commended.

## CHARTER MEMBERS OF THE SOUTHWESTERN MEDICAL ASSOCIATION PRESENT MEDICAL MARCH OF TIME.

Elsewhere in this issue will be found more details regarding the Twenty-fifth (Silver Jubilee) meeting of the Southwestern Medical Association. An important feature of the program will be THE MEDICAL MARCH OF TIME section, to be presented by charter members of the Association. All living ex-presidents, who are also charter members, have been invited to participate in this presentation, and approximately two-thirds of the papers to be given by charter members will be from ex-presidents of the organization. Truly from such a presentation, we should have a pageant of the progress of medicine and surgery in the Southwest during the past quarter of a century. During the year the Association has suffered the loss of one ex-president charter member,—Dr. F. D. Vickers, of Deming, N. M., who died in July of this year.

There is given below a list of the charter members, still living, so far as can be determined from the Secretary's office. Counted as charter members are all whose membership dates back to 1915. If any name has been overlooked, both the Secretary and the Chairman of this section of the Program will appreciate being informed of this.

E. W. Adamson, Douglas, Arizona.  
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 J. M. Britton, El Paso.  
 C. P. Brown, El Paso.  
 O. H. Brown, Phoenix.  
 W. L. Brown, El Paso.  
 Jim Camp, Pecos, Texas.  
 J. W. Cathcart, El Paso.  
 Meade Clyne, Tucson.

E. J. Cummins, El Paso.  
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 R. D. Kennedy, Globe, Arizona.  
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 J. W. Laws, El Paso.  
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 W. R. Lovelace, Albuquerque.  
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 J. R. Van Atta, Albuquerque.  
 James Vance, El Paso.  
 W. W. Waite, El Paso.  
 W. W. Watkins, Phoenix.  
 G. Werley, El Paso.  
 M. K. Wylder, Albuquerque.

—W. W. W.



### RED CROSS FIRST AIDERS SERVE HUMANITY

For many years much was said but comparatively little was done to combat the terrific toll of accidents. Then in 1935 the Red Cross undertook establishment of a chain of highway emergency first aid stations and mobile units.

The prime purpose of these stations is to lessen the effects of accidents. There are now 2,820 fixed stations and 2,599 mobile units in operation. The former are to be found in every state in the Union, while the latter are in operation in 38 states.

Always supplied with adequate first aid equipment, and staffed by properly trained volunteers who hold themselves ready to render assistance at all times, these stations and units are accomplishing much by bridging the gap between the time of occurrence of an accident and arrival of professional medical assistance.

At Hopland, California is a first aid post operated by Mr. and Mrs. Robert O'Day. A recent survey of their reports covering one year showed treatment to the victims of 36 motor vehicle accidents, to 19 neighbors seriously cut or otherwise injured, to four cases of dog and snake bite, two pedestrians struck by hit and run drivers, 1 person wounded by a shotgun and 1 child hurt when a washing machine fell on him.

While this station was particularly active it did no more than all the others are ever prepared to do. Many a time these Red Cross first aiders have responded in the middle of the night to stop the flow of blood, dress the wounds, apply splints and nurse the low-burning spark of life, with the result that instead of another name being added to the list of automobile fatalities another life has been saved and the victim started on the road to complete recovery.

Following are the number of Red Cross first aid stations and mobile units in state of the Southwest:

Arizona, 28 stations, 41 mobile units; California, 169 stations, 65 mobile units; Colorado, 62 stations, 68 mobile units; Nevada, 14 stations, 17 mobile units; New Mexico, 14 stations, no mobile units; Texas, 66 stations, 132 mobile units; and Utah, 54 stations and 6 mobile units.

Many of the mobile units are highway or border patrol and police cars, while others are public utility trucks, highway maintenance vehicles and other types of motorized equipment. These cars and their crews have rendered effective service in many accidents.

The same may be said of the fixed first aid stations. Several of these latter are located in isolated areas, one being a distance of 70 miles from the nearest town.

This and all other peace time work of the Red Cross is financed from annual membership dues. Only in time of great emergency are special contributions and gifts requested.

During this year's Roll Call it is planned to enlist at least 1,000,000 new members. With this augmented membership the Red Cross will be in a position to maintain existing services and be prepared for extraordinary demands. The Roll Call takes place November 11th to 30th.



*Special Section*  
**Arizona State Medical Association**

PRESTON T. BROWN, M. D., *Associate Editor*  
403 Professional Bldg., Phoenix, Arizona

### COUNCIL MEETING

A meeting of the Council was held at Phoenix, September 24th with Dr. Chas. S. Smith, Nogales, President of the Association and Chairman of the Council, presiding. Attending were: Drs. Hal W. Rice, Bisbee; D. F. Harbridge, Phoenix; C. E. Yount, Prescott; L. R. Kober, Phoenix; Geo. O. Bassett, Prescott; John E. Bacon, Miami; Geo. C. Truman, Mesa; J. D. Hamer, Phoenix; W. Paul Holbrook, Tucson; Dr. Dan L. Mahoney of Tucson being absent from the state, and hence unable to attend, there being a full attendance otherwise.

The President called the meeting to clear the Association program for the current year, one of the items of business being the selection of a permanent location for the Association offices as originally proposed by the Council at its spring session. The "President's Page" in this section will carry further information relative to this office.

The meeting is the first of several to be held during the year as, under the new By-Laws, all Association work first clears through the Council. The next meeting is set for October 22, 1939.

### COMMITTEE ON SCIENTIFIC EDUCATION AND POSTGRADUATE ACTIVITIES

COMMITTEE MEETING: Phoenix, Arizona, September 24, 1939.

Members in attendance: Dr. F. W. Butler, Sanford; Dr. J. B. Littlefield, Tucson; Dr. H. T. Southworth, Prescott,—a full attendance.

Selection of year's Chairman: Dr. F. W. Butler.

Selection of year's Secretary: Dr. H. T. Southworth.

Business transacted:

Meeting was called to order at the Westward Ho Hotel at 10:30 A. M. by Chairman Dr. F. W. Butler.

Motion made by Dr. Littlefield that a list be given this committee of the meeting dates of the various county societies; motion seconded by Dr. Southworth. Discussion: None. Motion carried.

Motion made by Dr. Southworth that this committee recommend that the Association office ascertain the programs planned by the various scientific committees dealing with scientific education and postgraduate activities, and the secretaries of the competent county societies submit the names of any outstanding medical educators who might be available while on vacation in our state; all this material to be submitted to the committee on scientific education and postgraduate activities for their consideration and correlation. Motion

seconded by Dr. Littlefield. Discussion: None. Motion carried.

Motion made by Dr. Littlefield that the membership roster of the State Association be canvassed through the Association office for doctors who will be willing to submit papers on subjects they are particularly interested in and have postgraduate significance; the material to be reviewed and passed on by the committee on Scientific Education and Postgraduate Activities before presentation; the above committee will then notify each county society of the available dates for the program. Second to the motion made by Dr. Butler. Discussion: None. Motion carried.

Motion made by Dr. Littlefield that the Association office investigate the possibility of obtaining funds from Government, Endowment and other agencies to care for the expense of these programs. In the event that no such funds are available, it is recommended by this committee that the House of Delegates of the Arizona State Medical Association at their next meeting vote a special assessment of not less than one nor more than three dollars annually per member to defray the expenses of such Scientific Education and Postgraduate activities. Until such financial arrangements are perfected, each individual speaker shall be responsible for his own expenses, unless the Host Society shall see fit to reimburse the speaker the expense incurred. Motion seconded by Dr. Butler. Discussion: None. Motion carried.

Motion made by Dr. Southworth that this committee recommend that the Arizona State Medical Association consider the feasibility of extending its annual meeting two days in order to include more programs of Scientific Education and Postgraduate activities, making it similar to the International Postgraduate studies conducted by some Eastern states.

Dr. Littlefield: "From the discussion among ourselves it seems that we are of the unanimous opinion that we need a centralized form of postgraduate assembly in our state at present. However, conditions are such that such an extra meeting is not feasible; therefore, we should endeavor to make our annual state meetings as near a postgraduate assembly as possible and by the addition of the extra time embodied in the motion it will be possible to conduct all business in one day and increase the time allotted to scientific assemblies without it being too much of a financial burden; therefore, I second the motion." Further discussion: None. Motion carried.

(Continued on page 342)

## *The President's Page*

IT is with much pleasure I am able to report to the membership that the Arizona State Medical Association now has permanent offices located in room 202 Security Building, Phoenix. This was done by action of the Council on September 24th following a prior vote on the matter last spring, the Council at that time determining that the Association work had grown to the extent where it was advisable to maintain its own offices.

For the information of the new membership I might explain that the Association, for the past three and one-half years, has maintained an office in conjunction with the Medical Library Association and with the Maricopa County Medical Society located in the Professional Building, Phoenix, the assistant secretary of the Association serving all three of the organizations. The work of the Association became entirely too heavy to maintain this combined relationship, hence the creation of a separate office was authorized.

The Council also accepted the recommendation made in my Presidential Address, viz: that the Association advance its work by employing an Executive Secretary. Mrs. K. I. Coleman, who has been serving as part-time assistant-secretary, is now the Executive Secretary of the Association, conducting the work at the Central Medical Office. Every member of our Association is invited and urgently requested to call at the Central Medical Office when in Phoenix and become acquainted with the activities of this office through which all work of the Association is handled. The various officers and committee chairmen residing in Phoenix transact all their work through this office, while those residing out of Phoenix may and do conduct their work by way of correspondence.

MAKE USE OF THIS OFFICE. IT IS FOR YOU.

In all sincerity,

A handwritten signature in dark ink, reading "Geo. J. Smith M.D." in a cursive script.

PRESIDENT, ARIZONA STATE MEDICAL ASSOCIATION.



No further business to come before the committee, a motion to adjourn was made by Dr. Butler, seconded by Dr. Littlefield. Motion carried and the meeting was closed.

## NECROLOGY

### DR. WINIFRED WYLIE

Dr. Win Wylie, a past president of the Arizona State Medical Association and a member of the Maricopa County Medical Society for many years passed away at Glendale, California on September 23rd last. Dr. Wylie, who had practiced medicine for sixty-two years, mostly in Phoenix, was a prominent surgeon and had done much humanitarian work during his long career, befriending the ill and needy as becomes a true physician.

Dr. Wylie was born August 8, 1855 of physician parents, his father, Daniel Baldwin Wylie, and his mother, Harriet Amsbry Wylie, both holding degrees as doctors of medicine. Dr. Wylie received his degree in medicine from Rush Medical College in 1877, later receiving a degree in law from the Atlanta School of Law in 1898. His early practice in medicine was in Wisconsin. He came to Phoenix in 1896, leaving there two years later to study law at Atlanta. Again returning to Phoenix, Dr. Wylie became chief surgeon for the Arizona Eastern Railroad Company, serving in that capacity for eighteen years.

Medical affiliations of Dr. Wylie were: membership in the American Medical Association; a Fellow in the American College of Surgeons, serving as Chairman of the New Mexico and West Texas section of that organization for twelve years, giving fully of both his professional and legal talent to all his affiliations throughout his useful career.

The medical profession, and the public at large have lost a true physician in the passing of Winifred Wylie. His associates share with his family a deep grief at his passing.

## COMMON DERMATOSES

(Continued from page 337)

cated with secondary infection is by means of half or full strength tincture of iodine, half or full strength Whitfield's ointment. The formula for full strength Whitfield's ointment follows:

R—Salicylic Acid	2.
Benzoic Acid	4.
Benzoated Lard ad	30.

### DERMATITIS VENENATA

Dermatitis venenata or contact dermatitis is an extremely common skin disorder. Due to an untold number of different substances, it may best be considered in a topographical manner. In general the history given by these patients is one of repeated attacks with intervals of freedom from the eruption, though of course, if the contact to the causative substances is more or less continuous, then so will be the eruption. In practically all instances the location of the eruption will furnish some clue as

to the cause. Substances which come in contact with these areas can then be tested by means of patch tests (not scratch or intradermal) and the offending irritant can be detected. Properly used, the test is accurate to a high degree. Since the location of the eruption is the most valuable clue as to its cause, the subject will be taken up in a topographical manner.

**Scalp:**—The dermatitis in this area immediately suggests a hair dye, a hair tonic, a brilliantine, or wave set fluid as the cause.

**Neck:**—About the neck one must consider any application used on the scalp and in addition various articles of jewelry, perfume and fur dyes.

**Forehead:**—May present a dermatitis due to leather, e.g., a hat band dermatitis.

**Ears:**—The backs of the ears may be irritated by the nickel present in white gold glass frames. Perfume applied to the lobes of the ears and the sides of the neck may also act as an irritant.

**Eyelids:**—The eyelids may be involved by the essential oils found in citrus fruits, by primrose, hair dyes, eyelash dyes or any medicament used in or about the eyes, atropine, pontocaine and nupercaine are frequent offenders.

**Face:**—The face is frequently involved in cases of pollen dermatitis, and by various cosmetics, as well as in poison oak or ivy dermatitis.

**Lips:**—In cases of dermatitis of the lips, one must especially consider lipstick or toothpaste as a cause.

**Mouth:**—Stomatitis of the nature of a contact dermatitis may be produced by mouthwashes, toothpastes and denture material.

**Axillae:**—Contact dermatitis of the axilla is produced by dress shields, deodorants and dyes from clothing.

**Trunk:**—The lower abdomen may present an eruption due to an elastic girdle.

**Genitalia:**—The genitalia of both sexes are often involved in eruptions due to poison oak or ivy. Contraceptive chemicals, including rubber dermatitis from condoms, are also to be considered.

**Buttocks:**—Peri-anal irritations may occur from suppositories or medicaments used locally, particularly nupercaine. The toilet seat is not an infrequent cause of a dermatitis of the buttocks. Leather in pocket books is sometimes a factor.

**Wrists:**—Contact dermatitis appears in this area from leather (watch wrist band), and nickel (watches or jewelry).

**Hands:**—The hands, next to the face, are most frequently involved in a contact dermatitis. To mention a few, we have rubber gloves, antiseptics and powder irritating the hands of surgeons; novocaine dermatitis in dentists; formaldehyde dermatitis in pathologists, undertakers and beauty shop operators; cinnamon and other chemicals in bakers; cement in construction workers; various woods, especially tropical woods in cabinet makers and carpenters; sawdust in janitors; photographic chemicals, especially metal in photographers and plants and shrubs in gardeners.

**Thighs:**—Nickel in garters may cause irritation of the skin. Matches carried in trouser pockets often cause a dermatitis of the anterior thigh.

**Legs:**—Dyes in stockings may cause localized eruptions in either sex.

**Feet and Ankles:**—Leather, stockings, shoe dyes and polishes may be irritating to the feet.

To sum up, any substance touching the skin may cause an irritation in a susceptible person. This susceptibility is determined by means of patch tests which should be applied in such a manner as to simulate the original contact.

#### SEBORRHEIC DERMATITIS

This dermatosis is extremely common on the scalp where the laity usually speak of it as dandruff. Spreading downward from the scalp it tends to involve the areas behind the ears, the forehead, eyebrows, eyelids and the naso labial folds. Primarily involving the central parts of the body, it also may involve the central part of the upper chest producing erythematous to yellowish-brown lesions often annular in nature. Many cases of resistant blepharitis may be traced to a concomitant seborrhea of the scalp.

The sovereign remedies for this disorder are mercury in the form of 3 to 10% ammoniated mercury ointment, or sulphur precipitate ointment in the same strength. These cannot be used together. Salicylic acid in 3 to 5% strength is often added to them, and in certain cases tar, in the form of oil of cade in two to four per cent strength is valuable added to either of the above ointments. Ordinary cold cream makes a suitable base.

#### CONCLUSIONS

1. A few of the more common skin disorders have been briefly discussed.

2. Simple but effective therapeutic measures have also been briefly mentioned.

2007 Wilshire Blvd.

## NEWS

### El Paso

The regular Staff Meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, September 5, 1939, at 12:10 p.m. in the auditorium of the Nurses' Home. Luncheon was served. The Scientific program was as follows:

"Miliary Tuberculosis"—by Dr. John Peticolas.

Discussion—Drs. Gallagher, Duncan and Stowe.

The El Paso County Medical Society met in regular session September 11, 1939, at Hotel Cortez, at 8:00 p.m. The program was as follows:

"Eighteen Years of Pneumonia at William Beaumont Hospital" by Col. Thomas E. Scott, M. C., U. S. Army.

"Complications Arising from the Administration of Arsenicals" by Dr. Raymond P. Hughes.

A regular meeting of the Tumor Clinic was held Tuesday, September 12, 1939, at 1:00 p.m., at City-County Hospital. The program was as follows:

1. Carcinoma of cervix.
2. Carcinoma of breast.
3. Skin tumor of right foot.

The Executive Committee of the El Paso County Medical Society and the Medical Personnel of the Board of Health held a joint meeting at 8:00 p.m., Tuesday, September 19, 1939, at Hotel Cortez. This was in the form of an opening meeting of the El Paso County Medical Society.

A regular meeting of the El Paso County Medical Society was held September 25, 1939, at 8:00 p.m., in the Tea Room of Hotel Cortez. The scientific program was as follows:

"Bundle Branch Block—Review of Cases", by Dr. Ralph H. Homan.

"Recent Advances in Medicine", by Dr. Chester D. Awe.

A regular meeting of the Tumor Clinic was held Tuesday, September 26, 1939, at 1:00 p.m., at City-County Hospital. The program was as follows:

1. Carcinoma of cervix.
2. Carcinoma of breast.
8. Carcinoma of stomach.

The regular Dinner and Staff Meeting of the Southwestern General Hospital was held Thursday, September 28, 1939, at 6:30 p.m., in the Hospital Auditorium. Election of officers was held. The scientific program was as follows:

"Osteomalacia—Parathyroid Adenoma—Spontaneous Fracture of Both Femurs", by Dr. James Vance.

Discussion, by Drs. J. Rogde and L. W. Breck.

Election was held at the regular Dinner and Staff Meeting of the Southwestern General Hospital September 28, 1939. The officers elected were: Dr. F. O. Barrett, Chief of Staff; Dr. James Vance, Vice-chief of Staff; Dr. W. R. Curtiss, Secretary.

Dr. J. W. Tappan, former director of the El Paso City-County Health Department, died in William Beaumont General Hospital, September 2, 1939. He was 72. Dr. Tappan was retired in 1933 from the United States Public Health Service, where he had served since 1906. He represented the Service in El Paso for nearly 20 years. Following his retirement he served as assistant director of El Paso City-County Health Department until January 1, 1937, when he assumed the directorship. He resigned this appointment in September, 1938.

Dr. Tappan was a member of The El Paso County Medical Society, The Texas State Medical Association, The Southern Medical Association, The Southwestern Medical Association and The American Medical Association. He was a Fellow of The American College of Physicians. Surviving Dr. Tap-



pan are, his widow, Mrs. Marion Tappan; a daughter, Mrs. Kenneth Rice; two sons, David and Robert; and a sister, Mrs. R. J. Johnston, of Virginia.

A regular Staff Meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, October 3, 1939, at 12:10 p.m. in the auditorium of the Nurses' Home. Luncheon was served. The scientific program was as follows:

"Pyloric Stenosis"—Dr. F. B. Stevens.

Discussion—Drs. Waite and Holt.

"Fever Therapy"—Dr. J. Mott Rawlings.

## MISCELLANY

### SELECTION OF PATIENTS FOR SURGERY

Any discussion of the preoperative study and care of the patient makes it very clear that the chief considerations, which have to do with the patient before he is submitted to a surgical ordeal, are of a physiological nature. To be sure there are two great groups of surgical patients, those who are *poor risks* and those who are *good risks*; but just because a patient is a good risk is no reason for neglecting the proper preoperative treatment which will render him a still better risk. We can perhaps do very little in the way of lessening the risk of the emergency case as opposed to a case in which the operation is one of election, but even in the emergency case some benefit may accrue from a proper evaluation of the patient's physiological status as contrasted with his anatomical status. The ideal considerations surrounding a satisfactory surgical risk permit a patient to come to operation *with the tissues adequately supplied with fluid, the food reserves in their normal state, the metabolism adjusted as perfectly as it may be, the intestines working normally, the circulation at its optimum level, and a nervous system as undisturbed and peaceful as in daily life.*—Rhode Island Med. J.

### OVERCROWDING OF MEDICAL PROFESSION

Far be it from us to advocate lengthening the present medical course, nor of making it more difficult. In order to reduce the number of medical students, the fairer way would seem to be in being more selective in accepting candidates for matriculation in the medical course, not only from the standpoint of scholarship, but from that of character and general fitness, difficult as this latter may be to evaluate.

In discussing the question of overcrowding, the status of the proportion of Jews in the medical profession arises. This subject is at present in the limelight in view of the persecution of the Jews in Germany and their immigration into this country.

According to Bevan, fourteen years ago 10 per cent of students in our medical schools were Jews. In 1935 the percentage had increased to 20 per

cent, and Rabbi Lazaran has found that in 1933, 32 per cent of applicants for admission to the medical schools were Jews. With 42 per cent of all Jews in the United States located in New York City, the problem in New York state is particularly difficult. The medical schools in New York City can obviously not accommodate all the Jewish students, and many apply elsewhere. That there has not been obvious discrimination against Jewish applicants to medical schools in general, is indicated by the fact that whereas only 3.5 per cent of the general population of the country is Jewish, Rypins found 17 per cent of medical students belonged to this race.—Jour. M.S.M.S.

### ... AND THE DOCTORS WERE BUSY

"Frantic men pounded on the doors of the doctors; *and the doctors were busy.* And sad men left word at the county stores for the coroner to send a car. The coroners were not too busy. The coroners' wagons backed up through the mud and took out the dead." Thus does John Steinbeck in his "Grapes of Wrath" describe the trails of the "Okies" in obtaining medical care and, like many another in recent times, place a question in the reader's mind as to the charity and ideals of physicians.

A few days before we read this we were visiting with an executive of one of the largest and most reputable banking houses in the United States, urging him to advertise the services of his institution to the more than 2,400 readers of the WISCONSIN MEDICAL JOURNAL. But what did he say?

"We are not interested in advertising our services to physicians. Doctors as a group are not rich. Large fortunes are seldom found among them,—they give too much free service to make big money and, when they do, they usually give it away."—Wisconsin Med. Jo.

### WILL IT COME TO THIS?

Joe Bruznoski, business agent for Obstetric Local No. 24, calls attention to the new rule that goes into effect November first, whereby all obstetricians are required to have helpers. Fine idea! More union members at work.

The disagreement as to jurisdiction between Gastro-Enterologists Local No. 37 and Abdominal Surgeons Local No. 2, in the case of a typhoid patient suspected of perforation is still unsettled, though the patient died shortly after the hearing began.

John Jones and his wife, 2106 Bismark Ave., are declared unfair to union medicine by Obstetric Local No. 24. Their recent off-spring was born in an ambulance.

Dr. John Peters of Urological Local No. 606 has been reprimanded and fined. Charges were preferred by the business agent of Physio-Therapy Local No. 7. Dr. Peters was accused of ordering a hot water bottle for a urological patient. The charges were sustained before the committee.

A decision of importance has been handed down in a case at issue between Abdominal Surgeons Local No. 21 and Gynecologist Local No. 44 as to whether a gynecologist may remove an appendix when doing a pelvic operation. The decision is that the gynecologist may do the pelvic operation but an abdominal surgeon must be called in to remove the appendix. Each is to collect his regular fee. All will agree that this is perfectly just and fair.

We wish to call attention again to the rules as to working hours. No work may be done before 8 a. m. or after 5 p. m., and no work on Saturdays, Sundays or holidays. Exceptions to this may be made only with the consent of the Committee of your Local. If a condition arises where you feel that something should be done outside regular hours, take it up with your Committee which meets every Thursday at 8 p. m. Under no circumstances are you to do anything until their approval has been secured.

The question of jurisdiction in the present epidemic of scarlet fever has been referred to the International Union for settlement.—Peoria Medical News, via Westchester Med. Bull.

#### APPENDICITIS

1. The mortality rate from appendicitis is a national disgrace.
2. Public educational campaigns, especially in the grade schools, are important in getting patients to the surgeon early.
3. Sound surgical judgment, skill and technic in the management of the ruptured cases, is an essential, if the mortality rate is to be lowered.
4. The use of the muscle separating incision has appeared to lessen the sequelae as well as the mortality in the infected cases.
5. With refinement in technic, this incision is physiologically, anatomically, and surgically correct. There is no damage to the integrity of the abdominal wall.
6. Surgery can not compensate for dereliction of the family or physician.
7. There must be a healthy attitude of cooperation between all concerned.
8. A hasty operation can not amend for a delayed diagnosis.
9. A surgeon equipped with a knowledge of the necessary surgical strategy can save more lives in ruptured appendicitis than in any other surgical disease.—N. O. M. and S. Jo.

#### STATE MEDICINE

Take, for example, Germany. In 1935, there were 36,000 employees of the non-medical personnel, and only 30,000 doctors. The politicians are supposed, in theory, to keep their hands off the business and professional set-up of socialized or state medicine, but where they vote a considerable part of the money to pay the expenses of the system, they are naturally interested in the manage-

ment. Sometimes they take quite a bit of interest in it. In one European country, several thousand doctors have been deprived of the privilege of practicing medicine for the state because they incurred the displeasure of the political powers. Politics is intimately bound up with the administration of socialized medicine in all cases where the state is called upon to pay large sums of money for its support, and no one should expect it to be otherwise.  
—Jour. F. M. A.

#### ADVICE ON SQUINT

Inestimable harm has been done by advice that children will outgrow the squint. Some children do but often at the expense of allowing the eye from which the accommodation urge on the convergence was originating to become so amblyopic that there is no further accommodative effort. If the accommodative strain is about equal the eyes will become so fixed in muscle contractions that surgery is necessary to turn them sufficiently to parallelism that vision and fusion training can be started. It is true that stereoscopic training and visual building with the use of prisms to bring the vision parallel is successful but the time required is long and the effort so tiring that I prefer to advise operation where the child is in school or will be in another year. Peters states that, "as a rough rule as many years are needed to train back vision and parallelism as the trouble has existed." After operation the training for third degree fusion can progress much more rapidly.—J. Mo. M. A.

#### YELLOW CHALK AND LEAD POISONING

There has been considerable agitation for the use of yellow chalk. Some school systems have made the change to yellow.

It is reported that in Wisconsin an outbreak of lead poisoning has occurred among school children. Investigators started the usual questioning and testing that is a part of modern health protection. Was this disease general to the community? No. It was confined to school children. What factor in the school environment might cause this disease? Which of these was a newly appeared factor?

The testimony and the evidence pointed at this new chalk, reports the Journal of School Health. How can the suspicion be proved? Test the air. The classroom air, when tested for lead, was found to contain several times the amount of lead that would be tolerated by public health authorities in industries handling lead products. As a precaution, the use of yellow chalk has been forbidden in the schools of Milwaukee.

Lead is commonly used as an ingredient in colored chalks because of its cheapness. No chalk—other than white—should be used in the schools until manufacturers change their habit, and until chemical tests prove these new chalks free from lead or other toxic material. A laboratory test of one yellow chalk showed 6 per cent lead content.—N. Y. St. J. M.



### TEN COMMANDMENTS FOR MEDICAL WITNESSES

These ten commandments for the expert witness in a medicolegal case, published in Colorado Medicine, were formulated by Dr. A. Q. Rosenberger and read by him before a meeting of the Milwaukee Bar Association. They are as follows:

1. Examine your case thoroughly and repeatedly so that you know what you are talking about. Know your facts well. They must be incontrovertible. The opinion you form from these facts is your own, but must be arrived at honestly.

2. Testify slowly, clearly, simply, and in language that the layman can understand. Forget your Latin medical terms. You are obliged to talk down to the level of intelligence in the jury box in order to get your facts across.

3. Stick to the unvarnished truth. If you do not, your statements will strike back at you like a boomerang.

4. Do not become partisan or assume a proprietary interest in the legal proceedings, for if you do, it will diminish your value in the eyes of the court and the jury.

5. Maintain your dignity and do not advise or consult with an attorney in the courtroom, but sit far away from him. The attorney should prepare his case before he goes into court.

6. You are not required to answer by "yes" or "no" an involved question if such answer places you in the position of the man who was asked, "Have you stopped beating your wife?" Your "yes" would be a lie and your "no" a prevarication. If a long, involved, hypothetical question is to be propounded to you, request that it be given to you in writing before you are put on the stand so that you may thoroughly study it and not embarrass your attorney by your answer.

8. Refuse to answer any question which puts you into some other field of medicine than your own. You may always say, "I cannot qualify."

9. Do not allow an attorney of the blustering, bulldozing type to anger you or "get your goat." The purpose of this line of questioning is to throw you off guard.

10. Remember that at times the most valuable words in the English language are, "I do not know."

—Jour. M. S. M. S.

### WHAT EVERY WOMAN DOESN'T KNOW— HOW TO GIVE COD LIVER OIL

Some authorities recommend that cod liver oil be given in the morning and at bedtime when the stomach is empty, while others prefer to give it after meals in order not to retard gastric secretion. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant soon becomes accustomed to taking the oil without having its mouth held open. It is most important that the mother administer the oil in a matter-of-fact manner, without apology or expression of sympathy.

If given cold, cod liver oil has little taste, for the

cold tends to paralyze momentarily the gustatory nerves. As any "taste" is largely a metallic one from the silver or silverplated spoon (particularly if the plating is worn), a glass spoon has an advantage.

On account of its higher potency in Vitamins A and D, Mead's Cod Liver Oil Fortified With Percomorph Liver Oil may be given in one-third the ordinary cod liver oil dosage, and is particularly desirable in cases of fat intolerance.

### BOOK NOTES

DO YOU WANT TO BECOME A DOCTOR. By Morris Fishbein, M. D., Editor, JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Pp. 176. Cloth \$1.50. New York, Frederick A. Stokes Co. 1939.

This little book is one of a series of vocational guides calculated to be informative to the prospective entrant into the various learned callings. Leaders in the various fields have been chosen to write this series of vocational guides. This particular volume deals in great detail with the requirements necessary to enter the practice of medicine. There are general statements concerning medical education and preparation for entrance into medical colleges. The route followed by today's physicians in acquiring their training is completely outlined. The high requirements enumerated might possibly discourage the vacillating but at the same time must confirm the will of those ambitious to enter medicine. That is as it should be.

—M. P. S.

EYE, EAR, NOSE AND THROAT MANUAL FOR NURSES. By Roy H. Parkinson, M. D., F.A.C.S., Head Oculist and Aurist to St. Joseph's Hospital, San Francisco, California. Pp. 243, including index. Cloth, 79 illustrations. Fourth edition. St. Louis, The C. V. Mosby Co. 1939.

This is a valuable text book for use in Nurses Training Schools. Enough anatomy and physiology is included to give the nurse a nodding acquaintance with the parts under discussion. There would be no reason to attempt to teach the student nurse any more than is herein written. There are a number of good illustrations which will probably teach the young nurse as much if not more than will the text itself. It was evidently thought that students would be using this book under artificial light, because the paper is of a light green color and practically free from glare. The legibility of the text is markedly enhanced. Now we wonder why more of our medical books should not be printed on this same type of paper. Heaven knows that a white glaring page of fine type is hardly conducive to long hours of concentrated study.

The book could very well be a standard text book in all Nurses Training Schools.—M. P. S.

HEADACHE AND HEAD PAINS, by Walton Forest Dutton, M. D., formerly Medical Director, Polyclinic and Medico-Chirurgical Hospitals Graduate School of Medicine, University of Pennsylvania; Visiting Physician to the Northwest Texas Hospital; Visiting Physician to the St. Anthony's Hospital; Director, Medical Research Laboratories, Amarillo, Texas. Pp. 301 including index. Philadelphia, F. A. Davis Co. 1939.

The author has tried to gather together in one small volume abbreviated information concerning

headache accompanying disturbances anywhere in the body. The text runs the gamut from acromegaly to yellow fever. There is a rather complete index of headache causes. There is a chapter on remedies for diseases causing headache and an index of remedies for headache as a symptom. The book should find use as a desk reference. It would be well for the author to investigate the role of a deviated nasal septum or hypertrophied middle turbinates in the production of rather severe types of headaches. We should also like to see a more liberal discussion of headaches resulting from acute or chronic alcoholism. However, should the reader know thoroughly the contents of this volume he would certainly be in a position to assess the causes of the various types of headache in a rather intelligent fashion.—M. P. S.

**THE ART OF ANAESTHESIA.** By Paluel J. Flagg, M. D., Chairman of Committee on Asphyxia of the American Medical Association, Visiting Anaesthetist to Manhattan Eye and Ear Hospital, etc., etc. Pp. 491, including index. 161 Illustrations, Fabrikoid. Sixth edition. Philadelphia, J. B. Lippincott Co. 1939.

This is the sixth edition of the text book now regarded as standard throughout the English speaking world. There are added chapters on some of the newer anaesthetic agents, such as cyclopropane and vinethene. The use of helium as a vehicle in the administration of anaesthetic gases is discussed. The dangers of the newer gases are outlined. It is difficult to understand how any man doing anaesthesia could possibly afford to be without this text, and complete mastery thereof.

The book is adequately illustrated and indexed. The topography is planned so that it is easy to read. Repetition of important points is carried throughout the book.—M. P. S.

**OPERATIVE ORTHOPEDICS,** By Willis C. Campbell, M.D. Pp. 1154 including index. 845 Illustrations. \$12.50, Cloth. St. Louis, C. V. Mosby Co. 1939.

This is a book that will have a very wide appeal. The general surgeon, the industrial surgeon, and the orthopaedist will find it of great value. The reviewer wishes to especially recommend it to those taking a residency in or teaching orthopaedics and fracture work.

There are over a thousand pages in this book and almost as many figures. A very complete bibliography is found at the end of each section.

Although it is a treatise on the surgical management of orthopaedic problems, it must be said to the author's credit that he emphasizes non-operative treatment; for example, one finds the statement that "approximately 95% of fractures may be reduced by conservative measures."

Dr. Campbell's sound judgment and wide experience is reflected throughout his book; he has omitted or avoided emphasizing any procedures of dubious value.

The first chapter is devoted to the physiology and pathology of the skeletal system. In the section on apparatus are found many helpful ideas. By following his clearly and carefully detailed sur-

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gical technique, many common accidents can be avoided in the operating room. Then follows chapters on surgical approaches, acute suppurative arthritis, and joint aspirations. Under the heading of low grade affections of joints is found a discussion of the various arthritides and osteochondroses. Next is to be found a discussion of the techniques commonly employed to obtain joint fusion or joint motion. Over three hundred pages are devoted to acute traumatic lesions of joints, dislocations, fractures, malunited fractures, and delayed union and non-union of fractures. There is an adequate discussion of the surgical aspect bone tumors and acute and chronic affections of the bones and soft tissues. There are one hundred fifty pages on the treatment of paralysis. The last two chapters are on static and congenital deformities.—E. W. S.

The remainder of the book follows the headings of the usual text book on Proctology, with the exception of the last chapter, "Therapeutic Suggestions". This chapter, which could have been extremely interesting and valuable, contains less useful information than any other chapter in the book, and is disappointing.

The author presents his material concisely, and the therapeutic measures recommended are conservative. The section on colon surgery is of necessity so limited as to be of little value. For those who wish a concise work on proctology, this volume should be of value.—H. T. S., Jr.

New and Nonofficial Remedies, 1939, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1939. Cloth. Price, postpaid, \$1.50. Pp. 617: LXVII. Chicago: American Medical Association, 1939.

Each year a revised list of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association as of January first is published in book form under the title of "New and Nonofficial Remedies." The book contains the descriptions of acceptable proprietary substances and their preparations, proprietary mixtures if they have originality or other important qualities, important nonproprietary non-official articles, simple pharmaceutical preparations, and other articles which require retention in the book.

New and Nonofficial Remedies for 1939 omits many articles which appeared in the publication

PROCTOLOGY FOR THE GENERAL PRACTITIONER. By Frederick C. Smith, M. D., M. Sc., (Med.), F.A.P.S., Proctologist to St. Luke's and Children's Hospital, Philadelphia, formerly Associate in Proctology, Graduate School of Medicine, University of Pennsylvania. Pp. 386 including index. 142 illustrations. Fabrikoid, Philadelphia, F. A. Davis Co. 1939.

This volume, as the title indicates, is a concise work on proctology designed for the man doing general practice. The first chapter is devoted to symptomatology of common anorectal conditions. The second chapter, "Rectal, anal and perineal sensory symptoms of urogenital origin", covers an important subject which has not been sufficiently emphasized in the past.

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for 1938. A few of these have been omitted by action of the Council because they conflict with the rules that govern the recognition of articles or because their distributors did not present convincing evidence to demonstrate their continued eligibility.

The 1939 New and Nonofficial Remedies, of course, contains the revisions which appeared in the supplements for the 1938 edition, and continues the plan of grouping together articles having similar composition or action under a general discussion.

**PRINCIPLES OF CHEMISTRY**, An Introductory Textbook of Inorganic, and Physiological Chemistry for Nurses and Students of Home Economics and Applied Chemistry. With Laboratory Experiments, by Joseph H. Roe, Ph. D., Professor of Biochemistry, School of Medicine, George Washington University; formerly Instructor in Chemistry, Central School of Nursing, Washington, D. C. Pp. 503 including index. Illustrated. Cloth. \$3.00 5th edition. St. Louis, The C. V. Mosby Co. 1939.

This is a standard text book in schools of nursing. The work has found increasing acceptance through its several editions. There are sufficient exercises and questions for study to adequately illustrate the various topics under study. Again we like the publisher's procedure of using a light green paper stock. The present edition is completely up to date.—M. P. S.

**MICROBIOLOGY AND PATHOLOGY**, by Charles F. Carter, B. S., M. D., Director, Carter's Clinical Laboratory, Dallas, Texas; Consulting Pathologist, St. Louis Southwestern Railway Hospital, Texarkana, Arkansas; Formerly Director of Laboratories, Parkland Hospital, Dallas, Texas, etc., etc. Pp. 755 with index. Illustrated. Cloth. \$3.25. 2nd edition. St. Louis, The C. V. Mosby Co. 1939.

This is the second edition of a widely used, well

written text for nurses. The book is characterised by a completeness of detail, not usually found in textbooks for nurses. Study helps abound. Because of the interesting, clear explanations contained in the book, many processes are made more interesting than boring. The author's large experience in the field of clinical pathology quite suitably fits him to write this text. The book should enjoy even larger circulation in the years to come.—M. P. S.

**CARDIOVASCULAR DISEASES: Their Diagnosis and Treatment**. David Scherf, M. D., and Linn J. Boyd, M. D. F.A.C.P. Associate Professor of Clinical Medicine and Professor of Medicine, respectively. The New York Medical College, Flower & Fifth Avenue Hospitals. The C. V. Mosby Company. St. Louis. 1939. Cloth binding. 458 pps. Price \$7.50.

In the midst of a wealth of exhaustive volumes on cardiovascular diseases this small book, presenting concise discussions of the most important diagnostic and therapeutic problems in this field of medicine, is most welcome. It is not intended for a textbook, rather its aim is to supply practical information by brief discussions for direct application to diagnosis and treatment, without recourse to complicated methods and apparatus. Emphasis is placed upon the common, practical, usually neglected problems, which are often dismissed with a few meaningless phrases in so many textbooks.

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MEDICAL MUSSOLINI, By Morris A Bealle. Pp. 255 including index. Illustrated. Cloth. \$3.00. Washington, D. C., Columbia Publishing Co., 709 Carpenters Bldg. For sale by publisher only. 1939.

Of all the crack-pot flatus we have ever had the

misfortune to sniff, this piece of heavy mental labor is it. Should anyone in the land be unaware of what it is that makes such funny sounds in the skulls of the Republic's quacks, he should read this exposition. Normal men at times, in curious mood, may passingly consider the queer motivations of the quacks and the cults. If this type of manure is what feeds the juvenile mentalities of the quacks then at last it is apparent what kind of weeds grow in their heads. The book carries the inarticulate endorsement of a host of feeble clutchers on the skirts of knowledge who brazenly sport after their names more fake degrees than there are letters in the Christian appellations.

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believing in the freedom of the press and in the American right to spout off on soap boxes. In an effort to be totally objective in our reading, we began with the preface to check each error of fact as it appeared. This quickly became a rather hopeless task as it became apparent that each page would bear from one to twenty check marks. There can be no honest difference of opinion unless the two sides take as common premises a given set of facts. If one side proceed from a basis of complete error of fact, then obviously no opinion whatsoever can be reached. Better thinking and better logic can be observed in any of America's booby-hatches than is to be found anywhere in this book.

Dr. Fishbein may have his faults, the worst of which, in the judgment of the quacks of the land, is that he lays a heavy boot on the rubbish pile of mental aberration so lovingly build up by the fake practitioners and thinkers of this era. However, if that be a fault at all it would seem that virtue itself has been misnamed. Wide circulation of this book would of a certainty harm the cause of the quacks and the cults far more grievously than any other method possible for man to employ.

If any reasonable man cares to demonstrate to himself how completely trashy a printed volume of 225 pages can be, then let him be assured that this book represents the last word in waste of news print and the labors of the compositors.

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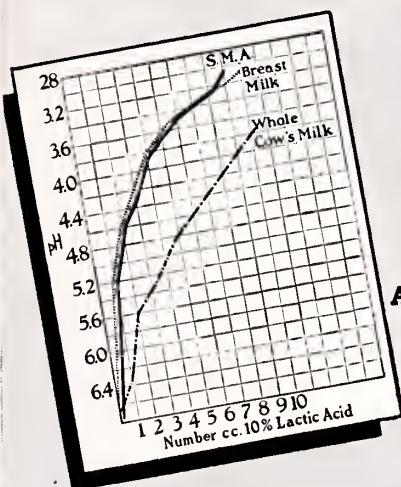
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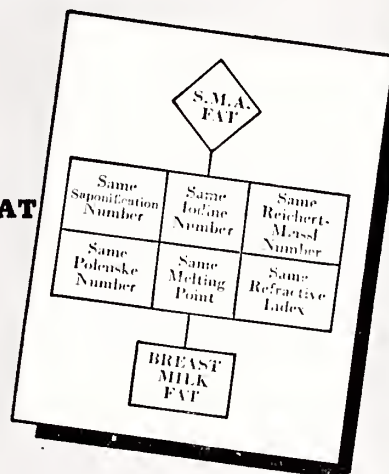
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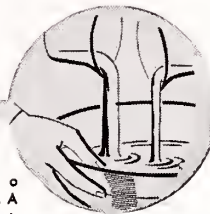


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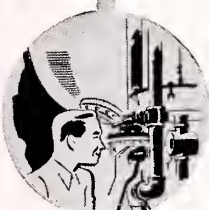
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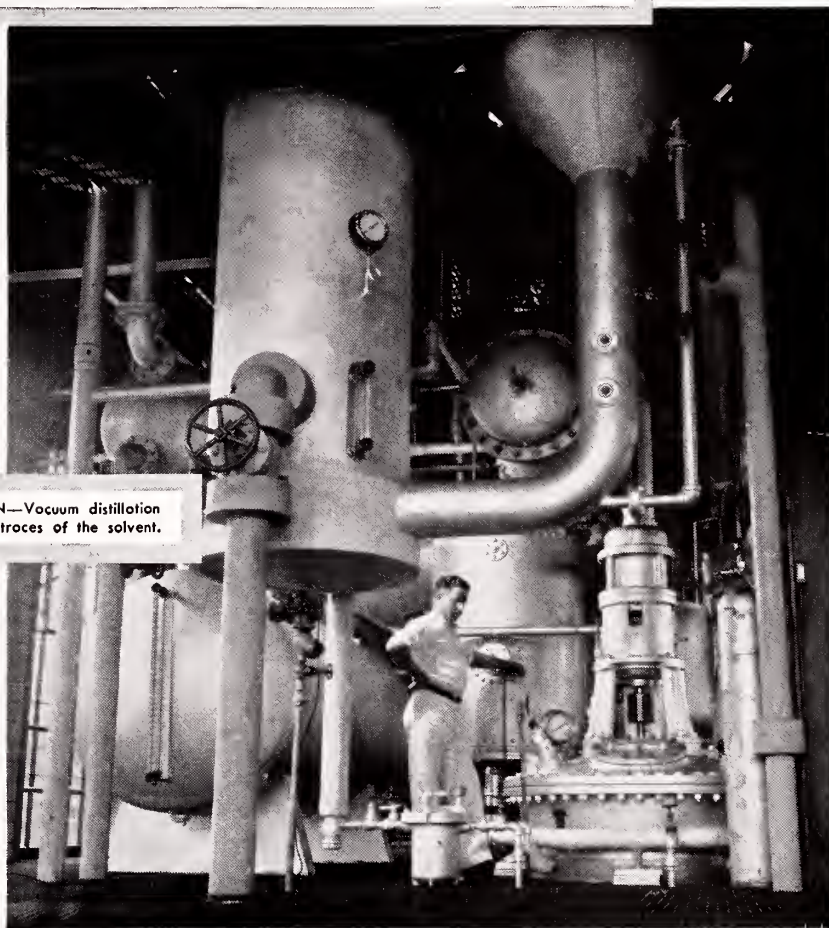
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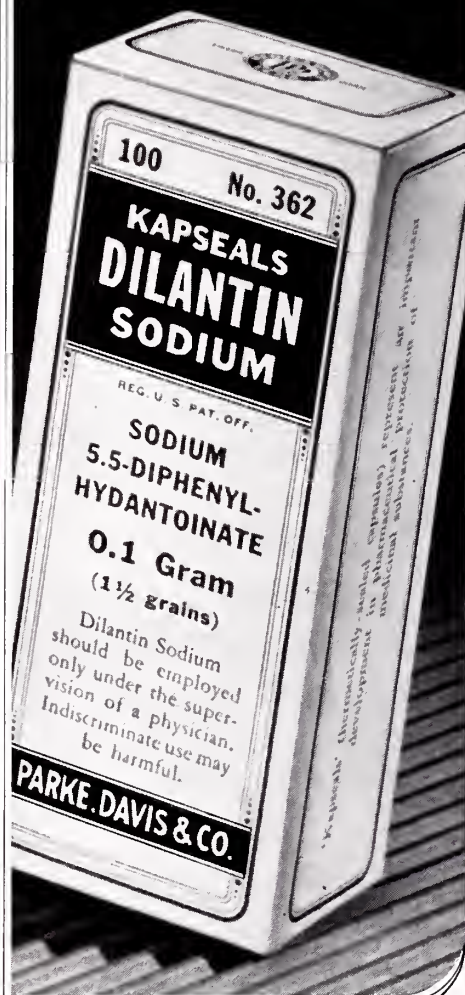


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*A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia*

Glisson, writing in 1671, described an ingenious use of swaddling bands — "first crossing the Brest and coming under the Armpits, then about the Head and under the Chin and then receiving the hands by two handles, so that it is a pleasure to see the Child hanging pendulous in the Air . . . This kind of Exercise . . . helpeth to restore the crooked Bones. . . ."

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"This is observed to happen more in the neighborhood of Rome than in other places," he wrote. "If no one oversees the infant's movements, his limbs do in the generality of cases become twisted. . . .

Hence, when he first begins to sit he must be propped by swathings of bandages. . . ."

Hundreds of years later swaddling was still prevalent in Italy, as attested by the sculptures of the della Robbias and their contemporaries. For in-

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## Wound Healing

THOMAS G. ORR, M. D.  
*Kansas City, Kansas*

**F**ACTORS influencing the healing of surgical wounds may be divided into two general groups: first, those affected by the general condition of the patient, and, second, those concerned with the local condition of the wound.

### GENERAL FACTORS

Surgeons have long recognized the fact that patients in poor physical condition at the time of operation most frequently have disruption of wounds. The state of the patient's general nutrition must therefore be considered an important factor in wound healing. General debility of old age, emaciation, nephritis, diabetes and cancer may cause delay in wound healing. Changes in the body chemistry have their influence upon healing. As an example of such influence Thompson, Raydin and Frank<sup>1</sup> were able to demonstrate a delay in wound healing by experimentally produced hypoproteinemia. Normal healing occurred when the serum protein was restored to normal by using lyophilized serum. Such hypoproteinemia results from starvation. Dehydration also changes the body chemistry and may delay wound healing.<sup>2</sup> Recent investigations indicate that avitaminosis tends to retard wound healing.<sup>3</sup> This is particularly true of vitamin A and C deficiency. Asymptomatic scurvy, detected by a determination of the ascorbic acid in the plasma, is of considerable importance in human wound healing.

Such complications as coughing, vomiting and abdominal distention may add unusual strain to a sutured wound, predisposing to infection, delayed healing or disruption. Disruption of wounds is said to occur in 0.03 to 3 percent of abdominal operations.<sup>4</sup> This is particularly important since the mortality from such accidents may reach 25 to 40 percent. To minimize the general factors that may delay or prevent wound healing emphasizes the importance of adequate preoperative preparation of the patient. Diet control of errors in metabolism, transfusions, elimination of respiratory infections, proper water and chemical balances, are factors of importance which may promote wound healing. The modern methods used to decompress the stomach and small intestine should reduce the percentage of wound disruptions by reducing vomiting and distention.

### LOCAL FACTORS

Infection, hemostasis, drainage material, type of incision, operative trauma, suture material, foreign bodies, lack of rest, disturbed blood supply, tension, inaccurate approximation and devitalized tissue all influence wound healing.

It is probable that no wound is absolutely free from bacteria, and must, therefore, be considered potentially infected. From a clinical standpoint, however, it hardly seems justifiable to say that a wound is infected until clinical or laboratory evidence of infection exists. Infections in clean surgical wounds may be reduced to a minimum by proper aseptic technic. It is to be remembered that the judicious use of soap and water is the best method of preparing the operative field and the surgeon's hands. It should not be necessary to emphasize the proper sterilization of all instruments and supplies used at the operating table. Yet this is most necessary in all hospitals, particularly those in which medical students, house officers and student nurses are receiving their training. Perhaps more errors in technic are made in handling surgical dressings and draping patients than by any other means in the operating department. Constant vigilance is necessary to properly train the novice in aseptic surgical technic. A surgeon who has permitted himself to become habituated to careless methods is hopeless. Operating room technic must be properly learned and practiced from the beginning.

The importance of careful masking of the nose and mouth is emphasized. Air borne infections from the mouth and upper air passages are likely to be virulent. The use of ultra violet rays for sterilization of the air in operating rooms is now in the process of experimentation and may prove to be an additional practical safeguard against wound infection.<sup>5</sup>

Another important source of infection is the skin of the patient. When this possibility of infection is reduced to a minimum by proper cleanliness grossly infected wounds rarely result from operation. Before closing a clean wound irrigation with physiologic sodium chloride solution will remove bacteria, blood and serum, and aid in the identification of loose tags of tissue that should be removed. Sharp dissection with a knife minimizes tissue damage. Exposed skin and wound edges should be protected with sterile towels dur-



ing the operation. Wound surfaces exposed for long periods of time should be covered with gauze packs soaked in saline solution.

After a wound becomes infected the use of antiseptics adds very little to the rapidity with which it heals. Anderson<sup>7</sup> concluded from his experimental observation that the majority of infected wounds, adequately drained and not containing sloughing tissue, in normal individuals, will heal according to a regular geometric curve, the rate being proportional to the size of the wound and decreasing with the age of the patient regardless of the type of local treatment. It is more important to consider the problem of increasing local tissue immunity, which may be influenced by factors of a general nature remote from the site of the wound, and aiding the sequestration of necrotic tissues rich in bacteria by mechanical or chemical debridement and adequate surgical drainage. Smelo<sup>8</sup> has expressed the opinion that antiseptics have more deleterious effect upon tissues than upon bacteria. He was unable to note any beneficial effect of antiseptics upon the processes of repair, and concluded that factors other than local dressings appear to play the dominant role in determining the rate of wound healing. David<sup>9</sup> has been able to obtain just as rapid healing of wounds by cleansing them with sterile soap and water as by more elaborate antiseptic treatment. He remarks that granulation tissue contains most of the fighting forces of the body against infection. Left to its own devices and protected from constant recontamination, it soon demonstrates its ability to combat infection upon it. The application of strong antiseptic solutions on granulation tissue have no power to penetrate the granulation tissue to reach infectious bacteria without at the same time injuring or destroying granulation tissue.

Hemostasis is essential to primary wound healing. The formation of a hematoma within a wound prevents coaptation of the wound margins, acts as a foreign body, prolongs cicatrization and predisposes to infection. If large clots develop in wounds exacuation may be necessary. The success of plastic surgery depends largely upon complete hemostasis. The presence of clots, ligatures or serum in wounds prevents accurate approximation of surfaces which is so necessary in the healing of grafts and pedicle flaps.

#### FOREIGN BODIES

Foreign bodies in a wound, if not removed, must be absorbed or encysted. A foreign body delays healing and forms a nidus for infection. The observation of W. S. Halsted that peritonitis in a dog is much more readily produced in the presence of a foreign body or a portion of ligated strangulated omentum emphasizes this point. When considering foreign bodies in surgical wounds suture material holds first place since most wounds must be closed with sutures, and bleeding vessels are usually ligated with suture material. Every time a bleeding vessel in a wound is ligated two foreign bodies are introduced, the ligature and the strangulated tissue distal to the ligature. Strangulation

causes necrosis of tissue which must be extruded or absorbed. The ligature likewise must be absorbed, extruded or encysted. It is then obvious that the minimum quantity of ligature material should be used in a wound and the minimum of tissue should be included in the grasp of a ligature to control bleeding. This means that a careful selection of suture material must be made to avoid unnecessary interference with wound healing.

#### SUTURES

Howes and Harvey,<sup>10</sup> in their study of the holding strength of the catgut suture, concluded that "the greater the amount of suture material embedded within a given area the greater the degree of tissue reaction. Therefore the least quantity of gut necessary to sustain the approximation of the tissues until requisite strength obtains in the wound should be employed." These authors found that No. 0 20-day chromicized catgut satisfies all requirements of the stitch in fascial and connective tissue layers. The finer sizes, No. 00 and No. 000 20-day chromicized gut, maintain sufficient tensile strength for the suturing of other structures and for ligation of all but the very largest vessels. If there is much strain on a wound or if infection or delayed healing is anticipated through-and-through tension sutures should be used.

The holding power of a stitch in wound decreases during the first two or three days, and more rapidly than the tensile strength of chromicized catgut. The holding power increases after three or four days when fibroblasts begin to form and the tensile strength of the wound increases. In the healing of a clean wound there is a lag period of between four and five days when the strength of the wound is that of the early fibrinous adhesions. After this initial lag the maximum immediate strength of the wound is reached in 10 to 12 days. This knowledge has practical value in determining the suitable time for permitting patients out of bed.

Howes<sup>10</sup> has emphasized that surgical catgut in wounds healing by first intention retains its tensile strength to the degree that is customarily expected. In the presence of excessive blood, blood serum or inflammatory exudate, both plain and chromicized catgut rapidly lose tensile strength. It is then obvious that the best results with the use of catgut are obtained when strict hemostasis, minimum trauma and absolute surgical asepsis are observed.

Kraissl<sup>11</sup> and others have suggested that some patients may be allergic to catgut. To support this suggestion they have been able to sensitize guinea pigs to catgut resulting in a high percentage of disrupted wounds. Clinically patients were found sensitive to catgut especially if they gave a history of allergy or a previous operation. The importance of such observations must be determined in the future.

The comparative value of silk and catgut as buried sutures in clean wounds is still somewhat controversial. Meleney<sup>12</sup> has observed less wound reaction when silk is used. His experiments have

shown that wounds contain more bacteria, more cellular and fluid exudation around catgut than around silk sutures. Catgut sutures imbibe fluid which increases their size and in time increases the tension on surrounding tissues. As pressure on tissues is increased blood supply is diminished, causing necrosis. Shambaugh and Dunphy,<sup>13</sup> from their experiments with infected wounds in dogs, found that operative wounds repaired with silk tolerate bacterial contamination better than similar wounds repaired with catgut, and that healing of suppurating wounds is not appreciably delayed by buried silk sutures of a fine grade if cut close to the knot and not used as continuous sutures. Experimental suppurating wounds repaired with fine silk may heal completely without the removal or discharge of the silk sutures.

Bates,<sup>14</sup> in his animal experiments, made the observation that plain catgut causes much more irritation in the tissues than chromicized catgut. Wounds healed best when fine chromicized gut was used. Chromicized catgut was associated with a retarded and lessened exudative foreign body reaction and with the early appearance of fibroblasts and early healing. It was concluded that if catgut is used as sutures and ligatures the finer sizes of the chromicized product are the choice.

There is much recent evidence to support the belief by many that silk is the most desirable suture material to use in clean surgical wounds, with the result that an increasing number of surgeons are using silk for both ligatures.

### DRAINS

Drainage material in a wound is a foreign body which produces a typical reaction of the tissues against such material. In clean wounds it is better judgment to meticulously control all bleeding, obliterate all dead space and close without drainage than to insert a drain and depend upon it to cleanse the wound of excess blood and serum. Where drains are considered necessary in clean wounds they should be removed in 24 to 48 hours. Infected wounds must frequently be drained. Here the removal of drains as early as is consistent with evacuation of exudate will prevent delay in healing by the presence of a foreign body.

### MISCELLANEOUS FACTORS

The type of incision may definitely influence the rate of wound healing. Clean-cut wounds heal smoothly. Separation of tissue layers beyond the necessity of structure identification and adequate suturing should be avoided. The rough handling of wound markings, careless clamping for traction, or tearing of structures unnecessarily devitalizes tissue.

Accurate approximation of sutured structures deserves special attention. In closing the peritoneum, fascia or skin, portions of fat, muscle or other tissue should not be permitted to protrude between the sutures. In the mechanics of wound closure tension on the tissues is of prime importance. In closing a wound the intent should be to accurately approximate the wound margins without any more tension than is necessary to accom-

plish this act. A suture that is too tight squeezes out the blood supply, causing necrosis, which not only weakens the wound but predisposes to infection and adds an unnecessary load by compelling the body to remove dead material before normal cicatrization can take place.

Rest is an essential factor in the treatment of wounds. This is true of both clean and infected wounds. Motion of wound tissues disturbs delicate granulations, prevents the proper development of fibroblasts and may cause oozing of blood or serum which delays healing. The practice of splinting extremities, bed rest, and limitation of activity are recognized parts of efficient management.

Without sufficient blood supply wounds will not heal. One of the best media for bacterial growth is tissue deprived of its blood supply. Old age, general debility, strangulation of tissues by ligatures, devitalization of tissues by tension of sutures, excessive local trauma, edema, arteriosclerosis and other blood vessel diseases influence the blood supply to wounds. Mont Reid<sup>15 16</sup> has emphasized the importance of closing infected or disrupted wounds with through-and-through silver wire, thus avoiding any introduction of foreign material within the wound proper or the strangulation of already damaged wound surfaces. The position of the wound will often influence its blood supply. Reid has mentioned that the relation of the wound to the heart level may be important in securing the best circulation. The placing of sutures so that a warm, moist dressing will promote oozing of blood and serum during the period of edema is a practical point in maintaining good blood supply. Pressure dressings, which are useful for protection and approximation of wound surfaces, may, if improperly applied, compress small vessels or capillaries and vitiate blood supply. The release of all pressure and tension is possible in some cases, such as amputation stumps, by applying skin traction with weight and pulley. Heat applied to wounds increases the blood flow and promotes healing.

### CONCLUSIONS

It is obvious from the above discussion that the factors which may influence wound healing are many. Since good wound healing is essential for the success of surgical operations a knowledge of these factors is fundamental. The more one studies wound healing the more respect he has for tissues, and an improvement in technic inevitably results. The making and reconstruction of a surgical wound should never be considered a secondary part of an operation since sound wound healing is primary in an estimation of the success of any surgical procedure.

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## Suspicious Cancer Symptoms

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CANCER is diagnosed most frequently in communities where suspicious cancer symptoms are looked for and are consequently recognized early. Nothing is more important than early recognition. This calls for a "cancer minded" physician alive to the slightest suspicious symptom present in his patient. Many symptoms, which to a cancer specialist would be definite danger signals, are too frequently overlooked by physicians with less training.

Should the physician be unable to arrive at a definite diagnosis, he should call a consultant at once or refer the case to one specially trained in cancer diagnosis, for upon this early detection depends the possibility of a cure. Both physicians and the patients have been educated to be on the lookout for suspicious cancer symptoms, yet too frequently they neglect to take advantage of the knowledge they have acquired.

Early suspicious cancer symptoms, unfortunately, are not specific, and similar signs frequently indicate other conditions. In actual practice a thorough painstaking examination is required to make a correct interpretation of these suspected cancer symptoms. The failure to distinguish malignant tumors in the early stage of their development is directly responsible for much of the tragedy occurring in connection with cancer.

### EARLY SIGNS

Cancer begins as a single epithelial cell, or group of epithelial cells, which for some unknown reason starts to grow independently of the rest of the body tissues and to form a local growth. A physician's ability to recognize cancer while it is still localized is, I repeat, imperative. To him will belong the glory of an early diagnosis and the credit for a cure; on the other hand, should he fail, then to him will belong condemnation for lack of an early diagnosis, and for the death of the patient which almost invariably follows.

While malignant neoplasms of the skin usually occur in the later decades of life, occasionally they are seen in childhood. Cancer of the skin is by no means a rare disease. Men, of course, are more frequently affected than women. The development of any tumor involving the skin demands an im-

mediate investigation. A mole or a wart may show a change of color and consistency. A sore on the skin may not heal promptly; it will scab and bleed when the scab is removed. The scar of an old burn or an x-ray burn may become eroded, moist, infected, and repeatedly bleed. In every instance it is high time to suspect cancer. Again, surgical wounds which fail to heal after a reasonable time should also be suspected. Precancerous dermatosis and senile keratosis frequently result in squamous cell epitheliomas; so they likewise present suspicious cancer symptoms.

### SKIN CANCER

The commonest site of skin epithelioma is the face, but no part of the skin is immune. Lesions on the hand are common; anal epithelioma, epithelioma of the vulva and of the penis belong to this group. The favorite site for an epithelioma is the juncture of two different types of epithelium: the epithelial transition zone. The disease begins as a flat nodule, a small protuberant wart with hornification, or an induration of the skin, or at the juncture of the skin and mucous membrane. Epitheliomas of the skin may have a markedly papillomatous character. They may arise in previously benign papillomas or they may develop in a chronically inflammatory skin such as xeroderma pigmentosum. Basal cell cancer of the skin presents a hard, infiltrating nodule beneath a smooth or slightly raised surface; the epidermis then becomes thinner, finally ulcerating. Adenocarcinoma of the skin arise from the sweat and sebaceous glands. Melano-epitheliomas are characterized by a deep steel-blue color. The discovery of pigmented moles on the body surface, beneath the toe nails, between the toes, on the sole of the foot about the anus or in the lower rectum should instantly arouse suspicion.

Epithelioma of the lip is the commonest form of malignant disease of the face; it accounts for 2 per cent of all deaths from cancer. Strangely enough, it is at least twenty times as frequent in the lower lip as in the upper. Moreover, it is more often in men than in women. A typical epithelioma of the lip begins as a crack or fissure, an abrasion due to chronic irritation, as a slight thickening or small nodule that ulcerates, refuses to heal, and later is covered with a crust.

## HEAD AND NECK

It is well known that certain conditions prevailing in the mouth predispose to the development of cancer. Leukoplakia is the most common precancerous lesion. It is a white patch on the mucous membrane, resembling in appearance and feeling a spot of enamel paint, for it will be hard and leathery in consistency. As a rule, these patches first appear at the corners of the lips, or behind the molars, or at the tip and along the borders of the tongue. In the later stages the patches show a tendency to crack or peel off, resulting in fissures or ulcerations, and becoming quite painful. These later signs should convey a warning of the probable onset of cancer. Other dangerous lesions are chronic fissures of the tongue, ulcers of the cheek and tongue caused by sharp edges of teeth and artificial dentures, benign papillomas, or intraoral tumors. Cancer when found in the mouth is usually of the prickle-celled variety. The clinical types of cancer of the mouth are the ulcerative, which are the commonest varieties. Induration of the ulcer, hardening of the edges and base are characteristic. The fissured type usually results from long standing glossitis. The fissure is usually superficial, and deeper an indurated mass can be felt. The nodular type appears first as a plaque or nodule submucous in position, covered by smooth unbroken epithelium. The papillary type begins as small, soft warts, sometimes pedunculated; their base is indurated, and they usually grow rapidly. The atypical type is rare, occurring on the buccal mucosa or on the tongue. At first there are slight and superficial ulcerations; later, an intense fibrosis results in marked contraction of the tissues.

Painful deglutition, with the presence of an ulcer in the tonsil, pharynx or epiglottis that fails to respond to treatment should also be under suspicion. A much enlarged tonsil may be cancerous. Intermittent interference with the voice, persistent hoarseness, a rasping cough may indicate laryngeal cancer. A persistent cough, with or without expectoration, hemoptysis or blood-tinged sputum, slight pyrexia with breathlessness and weakness for which no apparent cause can be found, is often a symptom-complex of cancer of the lungs. In such a patient pain in the chest usually represents an involvement of the pleura.

A firm nodular tumor over one side of the face, in front of or below the ear, or an indolent hard swelling under the jaw should arouse suspicion of cancer of the salivary glands. But the physician should make sure that these tumors are primary growths and not metastasis.

A sudden development of nodules in a non-goitrous gland, the rapid growth of adenoma of long standing, or an unusual firmness of the thyroid are often indicative of cancer. The diagnosis rests largely upon determining the degree of nodularity of the gland. The presence of a single nodule is a more serious finding than the presence of multiple nodules.

## BREAST TUMORS

Paget's disease of the nipple is characterized clinically by a persistent, circumscribed, eczematoid lesion; it must be distinguished from true eczema, which is usually bilateral, and lacks the sharply defined edge and slight infiltration of Paget's disease. In the early stage grayish scales appear on the nipple; when disquamation occurs, a raw, rose-red area appears, which gradually extends until the nipple is eroded and disappears. It must not be forgotten that Paget's disease may occur in the male breast.

The presence of a tumor in the breast calls for a very careful examination and a definite diagnosis. Dr. A. C. Scott's shadow test is quite effective as an early sign of cancer of the breast. Transillumination will show a definite shadow when cancer is present. In the incipient stage this is usually a rounded, discrete nodule, palpable with the flat of the hand, situated in the glandular tissue of the organ; it is freely movable with the breast tissue. One of the earliest signs of such a tumor is a shortening of the fibrous trabeculae, producing a pitting or retraction of the skin over its site; this can be exaggerated by gently pinching the breast between the index finger and the thumb. If the tumor is malignant, there will be an increase in the concavity of the area. A sulcus or dimpling of the skin over the tumor may be noticed particularly when the arm is raised. These symptoms are never associated with a benign breast tumor unless they are inflamed. Retraction of the nipple sometimes occurs quite early; fixation later. Any discharge from the nipple is always symptomatic of cancer of the breast. Since an apparently non-malignant breast tumor may become cancerous, the competent physician will advise all patients with benign breast tumors to have periodic examinations.

## DIGESTIVE TRACT

Cancer of the oesophagus is a disease of middle life; nevertheless, it may occur in young persons. The suspicious symptoms are increasing difficulty in swallowing overcome at first only by increased muscular effort. The patient will frequently begin the day by emptying the oesophagus of the white tenacious mucous which has accumulated above the growth during the night.

Progressive anemia, weakness, loss of weight, a dislike for food, especially meat, a vague feeling of discomfort or fullness after meals, a mild but persistent dyspepsia in the case of a patient more than thirty years of age, should lead the physician to suspect the possibility of a cancer of the stomach. Any gastric ulcer which fails to respond satisfactorily to proper treatment may be malignant. All benign growths of the stomach are liable to undergo malignant changes; this applies particularly to adenomata. Chronic gastritis may be an important predisposing factor, and cancer should always be suspected until it has been otherwise proved. The differential diagnosis between benign and malignant lesions of the stomach are not always easy nor accurate. A malignant gastric



lesion may stimulate benign ones, may even improve under medical treatment; therefore, repeated roentgenologic examinations must be made at regular intervals; these to prove or disprove the physician's suspicions of malignancy.

Cancer of the gall bladder is a commoner condition than has been generally thought; it should be suspected in all cases of chronic cholecystitis, especially cholelithiasis after the age of fifty. The early symptoms of cancer of the gall bladder are so vague that a diagnosis is seldom made in an operable stage. In cancer of the extrahepatic bile ducts, jaundice without associated colic is the earliest presenting symptom.

Cancer of the pancreas should be suspected when a person of middle age or older, without apparent cause, loses appetite, strength and weight. He will have a distaste for fatty foods and will complain of fullness and vague, deep pain in the epigastrium after the ingestion of food; yet he will have a normal stomach content. He may also suffer from constipation, jaundice without remission, and alcoholic stools. Intense pain in the upper abdomen or back, independent of food intake, is often an early symptom of cancer of the pancreas.

Early symptoms of cancer of the small intestine are vague abdominal pain, occasionally blood in the stool, increased peristalsis and distention.

The physician should again suspect cancer of the coecum and right half of the colon in all cases with mild dyspepsia, increasing constipation, profound anemia, increasing weakness, particularly when there is pain and a palpable mass in the right iliac fossa. Progressive constipation, as exemplified by the increasing use of purgatives, cramp-like pains in the abdomen, occasional attacks of fermentative diarrhea, with blood and mucous in the stool, are suspicious cancer symptoms of the left half of the colon.

#### RECTAL CANCER

Cancer of the rectum may be suspected in all cases of increasing constipation, hemorrhage and tenesmus; the constipation is first functional, later obstructive. Bleeding occurs in approximately 85 per cent of the cases of cancer of the rectum. It is one of the earliest and most constant symptoms of this disease. Its occurrence calls for a digital and visual examination; the physician should use both the proctoscope and the sigmoidoscope. Polypoid growths in any portion of the large bowel, especially in the rectum, should always be considered potentially malignant. Approximately 20 per cent of all cancers of the large intestine develop on the basis of polyps; therefore, colon polyps are always suspected.

Anal canal cancer produces early discomfort and pain during, and sometimes after, bowel movements. Bleeding is an early sign and fairly constant. The sensation of incomplete defecation and tenesmus are usually present. Fissure and hemorrhoids are often confused with cancer of the anus.

#### GENITAL TRACT

Leukoplakia of the vulva is a suspicious cancer

symptom, as it precedes the development of malignancy in over half of the cases. It is characterized by the presence of multiple small, raised white areas which represent thickened patches of epithelium. These may progress to papillary tumors or ulcerations. The diagnosis of a vulva tumor or ulcer is incomplete without a biopsy and serological test.

Various minute lesions, such as a definitely white leukoplakic surface, an erosion or ulcer which bleeds easily, a slightly elevated superficial epithelial layer, a dull, somewhat wrinkled surface, and a less transparent, lighter-colored surface than the normal epithelium in the cervix, are suspicious cancer symptoms; the Schiller test is necessary to point out white spots which require a biopsy for diagnosis. A friable tumor of the cervix which bleeds on examination is also a suspect. A bloody discharge, however, is the most important symptom in the diagnosis of cancer of the cervix.

The initial symptom of cancer of the body of the uterus is usually a discharge which may be bloody, leukorrheal or watery. Abnormal bleeding from the uterus, an increase in or prolongation of the menstrual flow or an intermenstrual bleeding in a patient of the cancer age is strongly suspicious. Beyond the menopause uterine bleeding is always regarded as positive evidence of cancer until proved otherwise.

A symptom-complex which often indicates cancer of the ovary is: the presence of a pelvic tumor which has taken on increased growth; bilateral ovarian tumors; ascites in the presence of a tumor; an induration in the culdesac of Douglas, and an omental cake.

A painless swelling in one testicle in a young man should arouse suspicion of malignancy. Leukoplakia, a very small spreading ulcer on the corona, an exuberant or papillary growth on the glans penis or prepuce are suspicious cancer symptoms. Frequency of urination both day and night, associated with difficulty and pain, are frequently cancer symptoms of the prostate. Obstructive urinary symptoms may predominate. Rectal examination should also reveal an increase in the consistency of the gland, as well as slight irregularity of the surface; small hard nodules may likewise be felt. Hematuria and disturbance of urination are the two most important cancer symptoms as related to the bladder.

The three cardinal symptoms of renal cancer are hematuria, pain and a tumor. Hematuria may be an early symptom; it calls for a careful physical and urologic examination. Pain and a palpable tumor are late symptoms in most cases—too late for successful treatment. Early, suspicious cancer symptoms of the kidney pelvis and ureter are hematuria and obstruction with retention, colic and pain.

#### CONCLUSIONS

The importance of early recognition of suspicious cancer symptoms cannot be too strongly stressed. Any abnormality that presents such symptoms must always be regarded seriously, for these symp-

toms create an emergency upon which the physician must act.

Frequently a thorough, painstaking examination by specially trained physicians with special equipment will be required to make a correct interpretation of suspicious cancer symptoms.

Far too frequently both patients and physicians are responsible for the delay that has long been recognized as the handmaiden of death for the cancer patient.. The patient's failure to have an early examination when suspicious symptoms are

present, the physician's failure to recognize cancer while it is still localized, are directly responsible for much of the tragedy of cancer.

The burden of proof always rests on the physician who assumes the responsibility of diagnosis. He must show that certain symptoms are harmless, that they will remain harmless, that, in short, there is no cancer; or he must be able to recognize them as cancer symptoms while the disease is curable; i. e., in the early stage.

Professional Building.

## Early Changes in the Endometrium; Diagnosis and Management

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"TO CURE cancer before it becomes cancer" implies the eradication of a localized tissue change which, if allowed to remain, may be transformed further and become cancer. If cancer does not begin as cancer, the lesion which antedates its actual existence may well be designated a precancerous lesion. The detection of precancerous conditions opens a field for investigation which seems to promise much in our effort to control cancer.

Research in the field of cancer has yielded many contributions of basic knowledge from the sciences of biology, physics, chemistry, genetics, etc. It seems almost certain that cancer is primarily a biological problem, since cancer cell growth is so closely related to normal cell growth and normal cell growth is vitally concerned with life itself. The physicist is extending our knowledge of the effect of short wave light on matter and upon cell activity. Carcinogenic and other chemicals have been discovered which are useful in the study of the forces responsible for malignant changes in cells. The studies of the geneticists have done much to stimulate research workers in other sciences to focus attention on the cell and through experimentation with laboratory animals they have proven that something exists within the cell which is concerned with cancer inheritability.

It is generally conceded that cancer is at first a local disease and that later it becomes both local and systemic. In this paper we are concerned almost entirely with early localized cancer and the lesions which may precede actual cancer.

A study of the early changes in the endometrium requires knowledge of its histological structures as well as the anatomy and functions of the entire uterus and parametria. Among the conditions with which we are most concerned may be mentioned uterine displacement, subinvolution, hyperinvolution, hypertrophy of the myometrium, hyperplasia of the endometrium, membranous endometritis, chronic infection, anomalies, endocrine

disturbances, pregnancy, non-malignant tumors, including myofibroma, uterine polyps and adenomyosis; and malignant tumors including carcinoma, chorioepithelioma and sarcoma. Under carcinoma, four grades, which are designated as follows: (1) papillary adenoma malignum, (2) adenoma malignum, (3) adenocarcinoma, (4) diffuse carcinoma, sometimes classified as embryonal or diffuse anaplastic carcinoma of the uterus.

### EARLY DIAGNOSIS

In order to study comprehensively early changes in the endometrium, it appears that we must be familiar with the nature of the conditions mentioned above and the symptoms they may produce. It is obvious that any clinical investigation must begin with a consideration of the data that can be obtained only through a carefully recorded history. The data collected in the history must be correlated with findings elicited in a physical examination. The physical examination should be general, as well as local, for the pelvis. It must also include bimanual vaginal palpation, inspection of the vulva, vagina, cervix uteri, and the careful use of the probe through the cervical canal into the endometrium. At this point special examinations may be required, such as bacteriological investigations, contrast staining of tissues in vivo, x-ray observations, with and without contrast material, etc.

Every symptom, direct and indirect, must be studied. It seems unfortunate that there are so few direct symptoms arising from changes in the endometrium. I refer to leucorrhea, with or without blood stain, hemorrhage, and pain which is described most frequently as cramps. It is obvious these symptoms have reduced differential value, since they are present in so many of the conditions which affect the endometrium.

The principal purpose of this paper is to emphasize the importance of the x-ray examination of the endometrium into which contrast material has been introduced, and the advisability of instituting it more frequently or including it as a part of a routine examination of the pelvic organs.

The findings elicited by a carefully considered



history and painstaking physical examination are essential. It must be admitted, however, that an early but definite pathological change can exist in the endometrium, the symptoms be very trivial or absent, all of the data to be secured through the history and a complete physical examination fully developed, and still the indefiniteness of the information obtained will lead to speculative interpretation and unreliable diagnoses. On the other hand, x-ray examinations present some very precise findings which cannot be secured by any other method, and these additional aids which may be secured safely often give us more positive assistance than any other or all other methods, and they form a basis for reliable diagnoses and better prognoses.

If a lesion exists in the endometrium and has progressed to a point where changes in the corpus uteri can be detected through bimanual palpation, and the probe findings are positive for pathology, there remains little reason for the institution of such special examinations as x-rays with contrast material. In such instances, laparotomy and surgical examination by palpation and observation of the corpus uteri add further evidence for a positive diagnosis. On the other hand, if this same lesion was being observed early, many if not all of these findings would be absent, and those present would probably be of such a nature that their significance would be a matter of conjecture.

The detection of lesions of the endometrium, early in their course, places a great responsibility on the physician. If the nature of an early change in the endometrium is not properly defined, the plan of management cannot be correctly formulated. If a change in the endometrium is not understood and through the treatment instituted the childbearing capacity is unnecessarily closed, it becomes a calamity, but if, on the other hand, a change in the endometrium is not detected and corrected before malignancy has developed and invasion has extended into the parametrium, it becomes a catastrophe.

#### X-RAY DIAGNOSIS

The technic for introducing a contrast material into the endometrium, conducting necessary fluorescent screen observations with proper manipulation of the uterus, and the exposing of x-ray films for permanent record and further study, require nothing special in the way of equipment or skillfulness. Wherever a radiological practice is being conducted, suitable x-ray equipment is certainly available. In addition to the radiological technic to be employed, the training required to perform the standard methods of diagnosis of the genitopelvic organs, and to make the follow-up observations of treated cases of malignancy will qualify anyone with sufficient information and preparation for conducting these special examinations. An ordinary glass syringe, with cannula 3 or 4 millimeters in diameter and 15 or 20 centimeters in length, with a syringe attachment and a perforated rubber cone, must also be provided. The can-

nula is inserted into the cervical canal and the syringe containing the contrast material (iodized oil) is attached to the cannula. Before the contrast material is introduced into the endometrium, the rubber cone is pushed forward on the cannula until it fits snugly into the external os. It is held in this position by clamping a pair of uterine forceps on the cannula. Under the fluorescent screen the contrast material is introduced very slowly, while careful screen observations are being made. X-ray films must be exposed during the process of screen observation when different amounts of contrast material have been introduced. The patient is rotated into different positions and the uterus manipulated as may be required, through traction and pressure on the instruments, in order that all of the surfaces and margins may be examined.

A careful study of the x-ray films, and also the records of the fluorescent screen findings, the history and physical data, will often yield sufficient information to make a reliable diagnosis possible. When a filling defect indicates the presence of a change in the endometrium and the data thus obtained remains insufficient for diagnosis, a biopsy must be considered.

#### BIOPSY

A microscopic examination of a piece of tissue obtained from the endometrium remains the most accurate method for determining the presence or absence of malignancy. While certain filling defects in a uterogram may strongly suggest malignancy, its actual proof remains for the microscopic report in almost all cases. The examination of the tissue removed for biopsy affords the opportunity for malignant grading, but the x-ray studies reveal the character and the extent of the endometrium involved more definitely than any or all other methods.

Curettage has long been the procedure for obtaining material from the endometrium for microscopical examinations. The hazards of this operation have also long been recognized, but with nothing better to replace it, the curette has continued to be in general use in spite of the dangers incurred. Doctor James Ewing states, "The routine curettage of the endometrium for fundus cancer must be held responsible for dissemination of tumor cells in a substantial proportion of cases. . . ." Pathologists and clinicians everywhere have been forced to face the sad experience of seeing a generalized carcinomatosis follow promptly the use of a curette. When one considers the vascular nature of the endometrium and the myometrium, together with the situation that must exist within the uterus when a curettage is being performed in the presence of an early malignant lesion, the amazing thing is that extensive dissemination of malignancy does not occur with greater frequency.

To supplant the use of the curette for diagnostic purposes, and to reduce the possible dangers of metastasis from operative manipulation, we have

designed an instrument which we call a biopsitome. With this instrument, under x-ray guidance, a specimen may be obtained from any portion of the endometrium which may appear as a filling defect in the screen and uterogram, with very little or no damage to other portions of the endometrium. The biopsitome we use is of the punch type and is insulated along the shaft with rubber. When the lesion in question has been clamped within the jaws of the biopsitome, electrical cutting currents are applied and the tissue removed from the endometrium. By this method the base is sufficiently coagulated or desiccated to control hemorrhage and the possible spread of malignant cells. In this manner small pieces of tissue ranging in size from two millimeters up, may be secured without creating electrical effect upon the tissue thus removed which would inhibit microscopical analysis.

#### REPEATED OBSERVATION

Progression and repression, as demonstrated in the uterogram, when small malignant lesions of the endometrium are detected and placed under radiotherapy, has almost inestimable value in determining when the therapy has been adequate or inadequate. It is indeed unfortunate for the welfare of the patient, if in the course of radiotherapy the physician in charge is forced to depend upon the detection of further invasion by physical examinations of the parametria and uterus. Findings so elicited almost certainly indicate that the malignant cells have become more radio-resistant, the natural barriers to malignant extension have been further broken down and the favorable outlook for a five-year good result—lost.

It appears that the physician whose field of tumor therapy includes the endometrium must have available facilities for uterography and for electrosurgical biopsies of the endometrium.

To correctly determine the reaction to therapy (endocrine, radiotherapy, etc.) is of paramount importance in the management of all of the lesions affecting the endometrium. It is quite obvious that information gained may be obtained through repeated biopsies with a biopsitome, from the same lesion, during the weeks following the institution of therapy, regardless of its character, which will

denote more clearly and safely than any other the course of recovery. In practice the x-ray examinations are made at frequent intervals and biopsitome specimens of the tissue are taken only when post-therapy findings seem to warrant it.

When carcinoma is well advanced, the interpretations of the filling defects in uterograms are seldom difficult, but the filling defect of endometrial hyperplasia and papillary adenoma malignum are not so easily differentiated. Areas of localized hyperplasia, with or without malignant cell activity, endometrial polyps, etc., the total size of which may be under five millimeters, always require the use of a biopsitome and subsequent microscopical analysis, in order that the true nature of the tissue responsible for the defect in the uterogram may be revealed. The possibility of selecting the particular tissue composing the filling defect and also the chance to return to the same site for subsequent biopsy specimens are among the reasons why tissues obtained in this manner become so much more accurate and satisfactory for microscopical study than those obtained by any form of curettage.

#### PRECANCEROUS LESIONS

Management of precancerous lesions of the endometrium falls into two general fields, endocrinotherapy and radiotherapy. Uterine displacements with subsequent vascular congestion, hypertrophy of the myometrium and the hyperplasias of endocrine origin, require special management from physicians qualified in the field of endocrinology. It is not the purpose of this paper to discuss such management other than to say again that diagnosis before treatment and the corrections which follow in endocrine therapy can be evaluated by this method better than any other, so far as the endometrium is concerned.

Where small amounts of radium (400 to 1,000 milligram element hours) have been given to the endometrium and where small amounts of x-rays have been given to the pelvis (400 to 1,000 r total depth dose) for conditions diagnosed other than malignancy, the value of confirmatory recheck examinations become very useful to the patient and a source of great satisfaction to the physician.

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## Surgical Manifestations of Amebiasis

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CONSIDERING the fact that the infection rate of *Entamoeba histolytica* is placed at from five to ten per cent for the entire population of the United States and that latency plays an important role in this type of infection, it is very important that we keep in mind the potential surgical disabilities incident to such a dangerous and widespread protozoan.

Acute amebic dysentery has been dealt with at

length in the medical press since the Chicago epidemic and it would be academic to consider this phase of the infection. Very little has been reported regarding the other manifestations with the exception of liver abscess. Surgical amebiasis, if such a term may be used, is the result of inadequately treated acute or chronic dysentery or latent infection. This type of pathology is not only very serious, but it is unfortunately a sad commentary on





Fig. 1—Epidemiology of liver abscess, from infected colon via portal circulation to liver.

our diagnostic acumen and lack of persistence with regard to treatment in known cases. As to the epidemiology of amebiasis suffice it to say that infection is food and water borne; that the vegetative stage of the organism is not an etiological factor in the transmission of the diseases and therefore the patient suffering from acute amebic dysentery is not a problem from a public health point of view. The chronic carrier who is passing cysts in his stools is the dangerous, but innocent, criminal and it is he who not infrequently develops the type of pathology we shall consider.

The following classification is the result of ten years of experience in the tropics. It is arranged to the frequency with which the various types of amebic manifestations presented themselves in a large government hospital in Bangkok, Siam.

#### CLASSIFICATION

- |                                    |   |
|------------------------------------|---|
| 1—Typical Amebic Dysentery .....   | { A—Acute.                              |
|                                    | { B—Chronic.                            |
| 2—Ulceration with Hemorrhage ..... | { A—Microscopic.                        |
|                                    | { B—Macroscopic.                        |
| 3—Liver Abscess .....              | { A—Single.                             |
|                                    | { B—Multiple.                           |
| 4—Intestinal Obstruction .....     | { A—Stricture .....                     |
|                                    | { B—Tumor formation—granuloma.          |
|                                    | { 1—Intraluminal.                       |
|                                    | { 2—Extraluminal.                       |
| 5—Intestinal Perforation .....     | { A—Intraperitoneal with peritonitis.   |
|                                    | { B—Extraperitoneal with fecal fistula. |
| 6—Pulmonary and Other Abscesses.   |   |

Limiting our discussion to the surgical manifestations of amebiasis we may dismiss any description of the symptomatology of acute and chronic dysentery per se. This applies to ulceration with hemorrhage except in so far as these conditions are

contributing factors to secondary surgical emergencies.

Considering then the most frequent surgical manifestation let us take up the subject of liver abscess. Not infrequently the patient will give a negative history with regard to either acute or chronic dysentery. He is quite unaware of the fact that he has been a very dangerous menace to the public health and to himself. He may or may not give a history of having at one time lived in the tropics. Liver abscess has its beginning as an acute or sub-acute hepatitis, localized or general. Probably some of these cases subside without the benefit of medication, certainly many of them would be aborted could we diagnose them in this early stage and institute proper and intensive medical treatment.

Abscess of the liver is usually single. Multiple abscesses are the result of generalized hepatitis or the result of extension from a single abscess. The signs and symptoms vary according to the location, size and the amount of liver damage. Exceptions to the following description are, of course,



Fig. 2—Liver abscess in young Siamese.

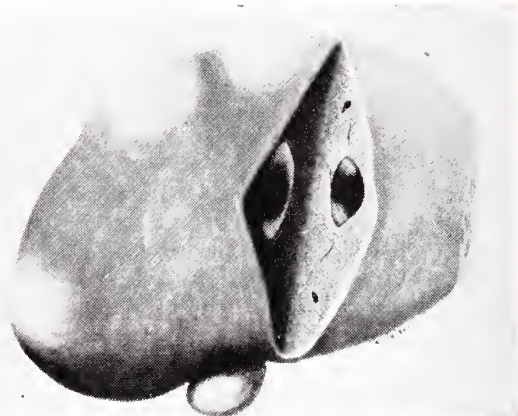


Fig. 3—Multiple abscesses in a Javanese.



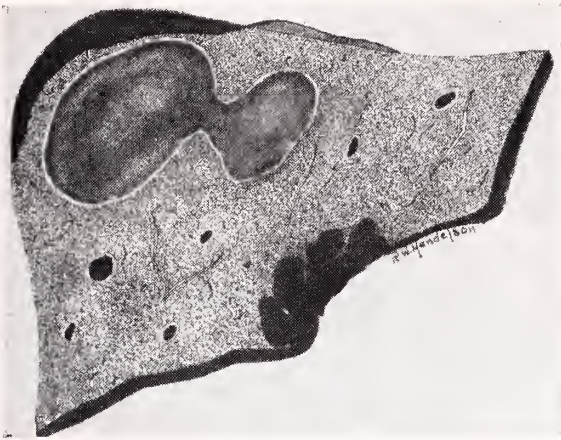


Fig. 4—Usual type of liver abscess.



Fig. 5—Illustrating pathology of amebic intestinal ulceration.

not infrequent. The dome of the liver is a frequent site and a distinct tumor mass may at times be present. The diaphragm is elevated, chest expansion is limited on the same side, and frequently there is right shoulder pain. The toxic manifestations are mild or severe. Usually there are mild rigors alternating with a daily temperature range from sub-normal to 102 degrees F. Mild or exhausting sweats may incapacitate the patient. The blood picture reveals a polymorphonuclear leucocytosis ranging from fifteen to twenty thousand. There is usually a mild secondary anemia.

The facial expression, degree of emaciation and general debility will depend entirely upon the time interval between the beginning of the abscess and its diagnosis. Stool examinations for cysts are, of course, indicated. Cultures and the Craig complement fixation test may assist in confirming the diagnosis. We may also have occasion to require the assistance of the radiologist in confirming a doubtful tumor mass. In considering the differential diagnosis it might be wiser to try to disprove the existence of a liver abscess than to try to confirm it, because then one would be more apt to consider the many conditions that may stimulate it. In localities where malaria is common one must keep in mind the possibility of a malarial hepatitis to be differentiated by frequent blood examinations for the malarial parasite. Hepatic malignancy with low grade fever may be

difficult to rule out in the early stage unless one is fortunate in finding cysts in the stools or the cultures or complement fixation tests prove of value.

The possibility of Hodgkins disease with involvement of the liver and the Pel-Ebstein type of temperature is to be kept in mind. Subphrenic abscess from a ruptured peptic ulcer may simulate a liver abscess as may also hepatic syphilis with special reference to degenerating gummata. Tuberculous retroperitoneal lymph glands have been diagnosed as liver abscess, as the condition may present hepatic tenderness, rigors, mild elevation in temperature and a degree of leucocytosis. Although a liver abscess might eventually recover without the benefit of scientific assistance, such a consummation is not frequent and the treatment is surgical if actual abscess formation may be demonstrated or suspected by such symptoms as hepatic distress, mild rigors and sweats, slight elevation in temperature combined with a slight increase in the white cell count.

Preliminary aspiration has never appealed to me. Any case presenting sufficient evidence to justify surgical interference should have free drainage. Once the abscess has been opened one should in-



Fig. 6—Partial obstruction from excessive fibrous tissue formation in healing.



Fig. 7—Extraluminal obstruction as result of peritoneal irritation.



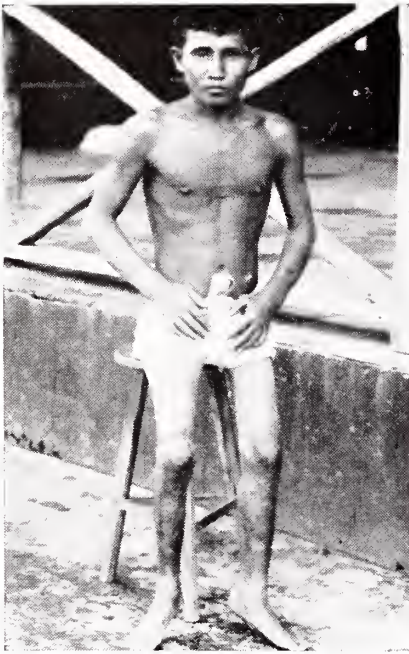


Fig. 8—Patient with complete intestinal obstruction incident to amebic granuloma.

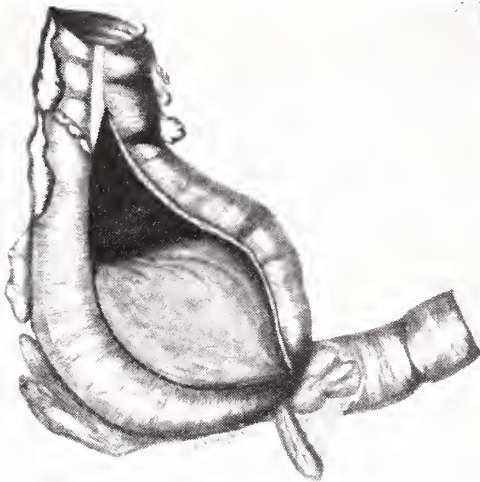


Fig. 9—Amebic granuloma of caecum.

investigate the field for the possibility of other abscesses. It would seem good practice to wash out as much of the abscess material as possible, but the use of antiseptics or specific amebicides is not indicated as the amebae present in the abscess are tissue parasites of the abscess wall and may not be reached with any degree of effectiveness by intrahepatic douching. Active medical treatment is indicated from the beginning and the most potent drug we have at our command is emetine. I usually give one grain per day for ten days, with a rest period of a week, and then repeat the course. Carbarsone or treparsol is used following each course of emetine. Some authors decry the use of any arsenical in liver abscess, but I have yet to observe any complications following the above routine. A high carbohydrate diet is indicated and

these patients should be fed small amounts and often. Continued examination of the stools for cysts should be the rule in order to discharge these patients "as cured as possible" and thus protect the general public from infection.

Fig. 1 depicts the intra-abdominal epidemiology of amebic abscess of the liver. The ulcerated colon may be observed and through the portal circulation the infection eventually reaches the liver. In this illustration the liver has been retracted and elevated to show the base of the abscess in the outer portion of the right lobe. Fig. 2 is that of a young Siamese with a liver abscess of several weeks duration. There is no history of either acute or chronic dysentery. Fig. 3 is a drawing of a liver with multiple abscesses. The patient was a young male from Java and was in a moribund condition when first seen. His wife stated he had suffered from a continuous diarrhea for several weeks. Fig. 4 portrays the usual type of abscess observed.



Fig. 10—Amebic granuloma, high power, shows vegetative amebae in gelatinous-like tumor substance.



Fig. 11—Extraperitoneal perforation with fecal fistula.



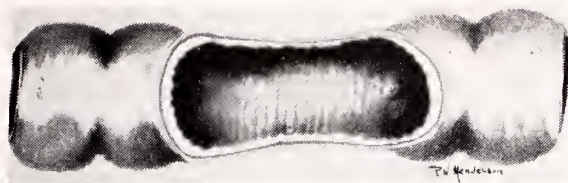


Fig. 12—Defect in colon in extraperitoneal perforation—three inches long.



Fig. 13—Pulmonary abscess, advanced.

#### INTESTINAL OBSTRUCTION

Intestinal obstruction was the second most common surgical condition observed. It may be due to a stricture that is either intra or extra-luminal. Or it may be due to a tumor formation, as from an amebic granuloma. Intraluminal stricture is the result of excessive fibrous tissue formation with contraction during ulcer healing. In Fig. 5 I have shown the early ulcerative process as the infection slowly penetrates through the mucosa into the sub-mucosa. Fig. 6 illustrates the healed ulcerative process with excessive scar formation leading to partial obstruction. In Fig. 7 we have an illustration of an extra-luminal type of obstruction, the result of peritoneal irritation. In this type of obstruction we may have both the large and the small intestine affected. Patients suffering from obstructive lesions usually give a history of dysentery. This we would expect, as theirs has been an active and not a passive infection. The symptomatology in this type of pathology is classical and the treatment, of course, surgical, followed by medical treatment as a preventive measure, even though the laboratory tests may be negative.

Obstruction from tumor formation is uncommon, and I have observed one case only of amebic granu-

loma. Fig. 8 is that of a young Siamese male who complained of gradually increasing constipation with final obstruction. This patient suffered from a complication of diseases that comprised a malarial, a hookworm and a leprosy infection. He gave no history of dysentery. His blood examination was positive for sub-tertian malaria, stool examinations revealed a hookworm infestation, but no amebic cysts. Secretions from the nose were positive for leprosy bacilli. From the history of increasing constipation with final obstruction a malignancy was suspected. Operative intervention revealed a tumor mass as illustrated in Fig. 9. A high power section is shown in Fig. 10. Numerous amebae may be observed in the gelatinous-like granulation tissue. These tumors may not be diagnosed previous to final microscopic examination, as the symptomatology and physical findings are not distinctive, and though one might have in mind such a condition the urgency of the case would hardly permit one to attempt other than immediate surgical relief. Obviously, intensive post-operative specific medication is indicated.

#### INTESTINAL PERFORATION

Intestinal perforation may be either intraperitoneal with peritonitis or extraperitoneal with fecal fistula. Intraperitoneal perforation calls for emergency surgery and differs not in its symptomatology from other types of intestinal perforation. Extraperitoneal perforation with fecal fistula is not an emergency procedure. Fig. 11 is that of a Siamese who gave a history of long continued dysentery. This type of perforation lends itself to conservative measures. The best method to follow is to

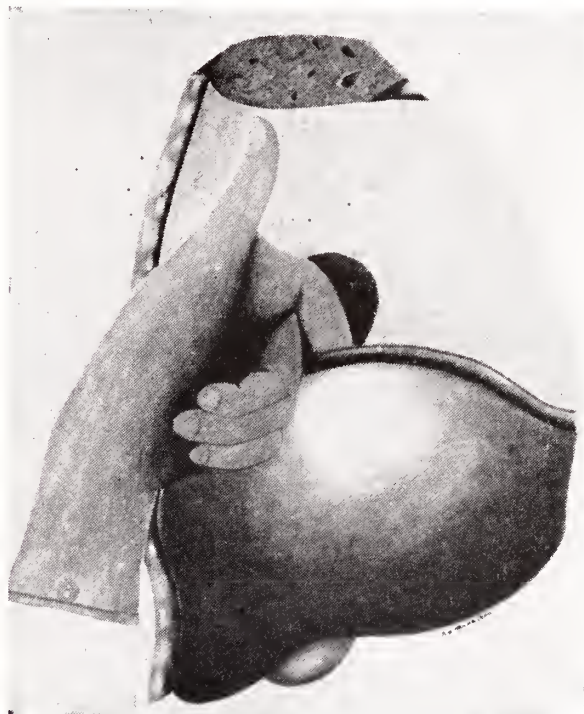


Fig. 14—Illustrating direct connection between liver abscess and lung through the diaphragm.



perform a colostomy under local anesthesia in order to sidetrack the intestinal flow, institute intensive medical treatment and later do what surgical repair is indicated. In this particular case the defect in the descending colon, as shown in Fig. 12, was three inches in length. The surrounding tissues were heavily infected with amebae.

#### PULMONARY ABSCESS

This type of abscess is not infrequent. It is usually secondary to liver abscess and a direct extension process through the diaphragm. It may be direct through the hepatic veins. In Fig. 13 we have a Chinese patient presenting a pulmonary abscess secondary to a primary focus in the liver. This man was expectorating large amounts of pus laden sputum in which many active amebae could be demonstrated. Most authors state that in this type of pathology the sputum is negative, but I have not found that to be the case. Fig. 14 portrays another case of pulmonary abscess due to

direct extension through the diaphragm. These patients are very poor surgical risks. Intensive medical treatment should first be instituted and the low resistance of the patient increased as much as possible before any surgical procedure is considered. It is hardly necessary to state that in all types of "surgical amebiasis," medical treatment is indicated. It is not anticipated that the type of case portrayed in this article will be observed in this country. On the other hand, we must not be unmindful of the possibilities in view of the widespread infection and rather high incidence in certain localities. Certainly this alone would suggest more careful clinical observation combined with more intensive laboratory examinations. If one but keeps the condition in mind, many potential surgical risks will be eliminated and this observation obtains irrespective of climate, nationality or race.

First National Bank Building.

## Traumatic Rupture of the Diaphragm With Bilateral Pneumothorax\*

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and

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THE modern age in which we now live has brought about a considerable increase in the number of diaphragmatic hernias, and the principal cause of this increase has been recorded as automobile accidents. Airplane crashes have likewise helped to swell the number. Diagnosis of diaphragmatic hernia is undoubtedly made oftener now in life than formerly, yet many cases still come to the autopsy table undiagnosed. Prior to the use of x-ray, diaphragmatic hernias were rarely diagnosed before autopsy.

The causes for traumatic hernias of the diaphragm have been listed as many, among them penetrating wounds, blunt trauma, crushing injuries, blows, collisions, jack-knifing, lifting, heavy labor, and even vomiting. Hernia of the diaphragm is divided into three types: congenital, acquired and traumatic. Hedblom in "Lewis' Surgery," in reviewing 1,435 cases of 13 different authors since 1900, gave 887 as congenital or acquired, and 548 as traumatic.

#### CASE REPORT

G. R., Lieutenant, Reserve Corps, was injured in an automobile accident on the afternoon of Nov. 1937, when the car in which he was riding collided head-on with a large truck. Of the five occupants of the car, two were killed outright, one died seven hours later, the fourth received multiple laceration and fractures but finally recovered. The fifth is the subject of this report.

This officer, after the accident, was able in some way to get out of the tangled wreckage and walk

about. He was also oriented enough to inquire about the welfare of his fellow passengers, and tried to assist them in whatever way he could. An hour or so later he was admitted to the hospital in the small town near the site of the accident.

Upon admission he was described as being semi-delirious and dis-oriented. The neurological examination was reported as negative. Shock was not severe and his general condition was considered as fair. The diagnoses then made were: (1) Fractures, multiple, ribs, left; (2) pneumothorax, traumatic, left; (3) observation for skull fracture.

On the following day his condition seemed unchanged until late afternoon and evening, when his respiration became more labored, delirium more pronounced and cyanosis was marked. An emergency call was sent to El Paso, 210 miles away, for oxygen or an ambulance plane with doctor. This latter call was answered and on Nov. 28 the patient was transported by plane to William Beaumont General Hospital, El Paso, accompanied by Capt. John L. Gallagher, M.C.

Upon arrival at William Beaumont General Hospital the patient was immediately placed under an oxygen tent because of the extreme cyanosis. Examination revealed a blood pressure of 118 systolic, 76 diastolic; pulse, 130; respiration, 28 to 32; temperature, 99.6. There was no response at all to the questions asked, and his condition was considered as critical. An examination of the chest showed the heart to be displaced well to the right side with the apex beat probably beneath the sternum. The entire left chest was tympanitic on percussion, breath sounds were absent and a diagnosis of left-sided pneumothorax was again made. Beside x-ray of left half of chest seemed to confirm this diagnosis. The abdomen was soft, with no tenderness. Several attempts were made to remove air from the left pleural space, but to no avail.

(\*From the Surgical and Medical Services, William Beaumont General Hospital.)

Approved for publication by the Surgeon General, U. S. Army.

On the following morning the roentgenologist promptly made a diagnosis of ruptured diaphragm, left, with pneumothorax on same side, and suggested probable herniation of viscera into the left hemithorax.

A barium meal was given and bedside films made. This clearly showed the stomach to be quite high and located in the left thoracic space. A still more conclusive confirmation was had after the use of a barium enema, which gave the re-



Fig. 1—Stomach and Colon in Left Thoracic Cavity.

sults as shown in Figure I, with the transverse colon being well up into the left thoracic cavity.

On this same date a better film of the chest was obtained and a spontaneous pneumothorax, right, with about 30% collapse of that lung noted. Forty-eight hours later this lung had completely re-expanded.

During the first five days of hospitalization the patient apparently held his own. Temperature ranged from 98.4 to 100.4, but the pulse was always above 110. From 2500 to 3000 c.c. of fluids could

be given by mouth daily along with some gruels and semi-soft foods. Daily enemas were effective and there were short periods in which the patient apparently was conscious. The oxygen tent was necessary at all times, and its removal immediately brought on marked cyanosis. The neurological examination was rather marked by the paucity of findings. At no time was there evidence of any muscular paralysis. The speech, however, was never distinct and swallowing was an effort. The extremely critical condition of the patient, of course, precluded any idea of operative procedure for correction of the herniation of the diaphragm.

On Dec. 4 a definite broncho-pneumonia developed in the right and only lung. From that time on retrogression was fairly rapid. Death came on Dec. 6.

The anatomical diagnoses at time of autopsy were: (1) Fracture, fifth, sixth, seventh and eighth ribs, left, at costophrenic angle; fracture of fifth, sixth and seventh ribs, left, at sterno-costal junction. (2) Rupture of diaphragm, left. (3) Displacement of spleen, stomach, transverse colon and omentum into left thoracic cavity. (4) Laceration of spleen, multiple. (5) Rupture of pericardial sac into left thoracic cavity. (6) Hemothorax, left. (7) Rupture of ligaments between axis and atlas on left side. (8) Extradural hemorrhage about upper portion of spinal cord; hemorrhage into corpus callosum, lateral ventricle, cortex and left frontal lobe of the brain. (9) Edema of brain. (10) Atelectasis of left lung. (11) Broncho-pneumonia, right lung.

#### COMMENT

This case is reported because: (1) a critically ill patient with the above findings was successfully transported 210 miles by ambulance plane. (2) A diagnosis of rupture of left leaf of the diaphragm with displacement of viscera into left thoracic cavity was readily made by the roentgenologist. (3) It seems remarkable that this individual could possibly have survived for a period of ten days, and especially so when during the first three days the vital capacity was certainly less than 30% of normal.

William Beaumont General Hospital, Ft. Davis.

## Mental Anorexia Simulating Pituitary Cachexia

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**P**ITUITARY cachexia, or Simmonds' disease, is generally due to a destructive lesion of the hypophysis, particularly of the anterior lobe. Since 1931, when the first cases were reported in the American literature by Graham and Farquharson<sup>1</sup>, it has become necessary to revise our criteria for differentiation as to the exact causative factors. The purpose of this paper is to report a clinical picture of Simmonds' disease in a young woman, who, following a nervous shock, wished to lose weight for personal or sentimental reasons.

The syndrome of pituitary cachexia was described by Simmonds<sup>2</sup> in 1914, and numerous cases have been reported since then. The picture is characterized by extreme emaciation, anemia, marked asthenia, slow pulse, chilliness, somnolence, cessation of menses or impotence, apathy and occa-

sionally by vague mental changes. A review of the literature in 1933 by Silver<sup>3</sup> disclosed 41 cases where the diagnosis had been confirmed by autopsy. Various changes in the pituitary were described, including necrosis, atrophy, tuberculous caseation, inflammatory changes, degeneration, tumors, cysts and hematoma. The disturbance appears to be more commonly encountered in women and after repeated childbirth. A study of the literature leaves the impression that functional disorders may be causative in certain cases.

#### CASE REPORT

The patient, a young woman 20, was first seen in October, 1937. She was brought to the office by her brother, who made the statement that she was rather uncooperative and resistive to any medical care. She complained of weakness, loss of weight, anorexia, headaches, occasional nausea and insomnia. These symptoms dated from about



August, 1936. Prior to that date she was in good health, weighing about 125 pounds. The menses began when she was 13, and were normal until the spring of 1937, when they became irregular and scanty, and ceased in July, 1937.

The patient was 63 inches tall and weighed 82 pounds when first seen. She appeared emaciated and moved about slowly. The skin appeared slightly bronzed, especially over the shoulders, back and buttocks. It had a wrinkled and senile appearance over these areas especially. The general musculature was atrophic, also the breasts. There was no adenopathy and the thyroid was not palpable. The blood pressure was 90 systolic and 60 diastolic. The pulse was 68 and of fair volume. The heart was normal in size, no arrhythmia, no murmurs. The lungs and abdomen appeared normal. The neurological examination revealed no evidence of organic involvement of the central nervous system. The pupils were equal, regular and reacted normally to light and in accommodation. The fundi appeared normal. Deep tendon reflexes and superficial reflexes were normal. Laboratory examinations revealed a normal blood count and blood chemistry within normal limits. Urinalysis and urine output were normal. The Wassermann of the blood and spinal fluid were negative. Gastric analysis showed slight hypochlorhydria. X-ray of the skull showed no abnormality. The sella appeared normal. The B. M. R. was —15 on October 26 and —17 on October 29, 1937. The mental status revealed no significant material in the immediate examination. As noted above, she was a bit surly and antagonistic at times, and on the whole she was unresponsive to suggestion and prescribed treatment. Interviews were carried on in a desultory fashion in the early periods, but, as so frequently happens in such cases, she became more responsive in the later periods and appeared to gain some insight.

*Course:* The patient was placed in the hospital but she refused to remain longer than a few days, during which time the laboratory work was carried out. Her generally uncooperative attitude toward hospitalization and treatment suggested an underlying emotional factor. She was placed on glandular therapy, in view of favorable reports by Hawkinson,<sup>4</sup> Brougher<sup>5</sup> and others, regarding the use of extracts of the anterior pituitary gland. First she was given 1 c.c. of antuitrin intramuscularly, daily for 30 days. Then on December 10, 1937, this was changed to 200 rat units daily of the gonadotropic substance from pregnancy urine, which was continued until March 15, 1938. There was slight improvement in the patient's general condition up to January 1. On January 5, 1938, the B. M. R. remained —15.

During that period, the patient was able to get about and continue her university work but with much difficulty. In October, 1937, she not only had no appetite but eating required an effort which was difficult for her to make. She would drink three or four coca colas a day, but the thought of food produced nausea. Her weight increased from 82 to 85 pounds up to February 1, 1937. In January she was given 5 to 10 units of insulin twice daily with 1/10 gr. thyroid extract three times daily for a period lasting some 60 days. In the series of therapeutic interviews certain psychic traumata were brought out which may be summarized as follows. Though she had never been much attached to her mother, she professed a deep shock on the mother's death in April, 1936. In spite of that shock she was able to take complete charge of the home and to look after a younger sister in addition to her own university work. Her father had expressed no interest in the question of remarrying, but the patient, in later interviews, showed much concern over the possi-

bility of the introduction of a stepmother into the home.

Her general condition improved with a gain of ten pounds in the next three months and she was able to finish the term at the university and to obtain a teaching position for the next school year. This position took her away from home in the fall of 1938. Her general condition then began showing marked improvement, which has progressed to the present time. Menses were re-established in March, 1939. When last seen in September, 1939, her weight was 118 pounds, and she appeared and considered herself in good health.

#### REMARKS

Cases of Simmonds' disease are reported where post mortem examination reveals an intact hypophysis. In other cases a pluriglandular involvement is reported with pathological changes in the thyroid, pancreas, ovaries, suprarenals, in addition to the pituitary. It would seem then, as pointed out by Pagniez,<sup>6</sup> that the Simmonds' syndrome may be caused by a pluriglandular involvement, perhaps on a functional basis, due primarily to a functional disturbance of the hypophysis. The favorable results obtained from the use of pituitary extracts would speak for this. As possible differentiating points between "organic" and a "functional" Simmonds' syndrome one may consider that the former is usually described as occurring in women after repeated childbirth. There is a fall in B. M. R. in both, but hypoglycemia appears more marked in the true or organic type. The absence of positive neurological findings might also suggest anorexia nervosa. As to therapy, glandular extracts may be of value in either case, but definitely indicated in Simmonds' disease, including pituitary, ovarian, thyroid or suprarenal substances. In mental anorexia, this should be supplemented with forced realimentation and psychotherapy.

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... In 1833 there was printed a volume by William Beaumont, a United States Army surgeon, which entitles its author to a place in the American Pantheon. The story of his patient work with the elusive Alexis St. Martin has often been told. If ever "chance and the prepared mind" met together at the proper moment, it was when the Canadian *habitant*, Alexis, shot in stomach, came under the care of the Connecticut Yankee, William Beaumont. Beaumont realized the opportunity of studying human digestion under hitherto unrealized conditions, and began a work that occupied him, with interruptions, for a period of eight years. He made a total of two hundred and thirty-eight observations and experiments which broadened enormously our understanding of the functions of the stomach. Not until Pavlov appeared on the scene did our knowledge of digestion receive a comparable increment.—Shattuck Lecture N.E.J. Med. Vol. 219, No. 16.

# Closed Pneumolysis in Pulmonary Tuberculosis

## Case Report

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and

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IT IS well recognized that collapse therapy holds an important place in the treatment of pulmonary tuberculosis. Generally speaking, those patients who can be afforded an efficient method of collapse have an 85% chance for clinical cure; without it, the ratio is reversed and only 15% recover from the disease. However, it must be emphasized that the collapse in question be adequate. Lesions comprising more than 25% of pulmonary tissue in one lung must for the most part be permanently collapsed, lest re-expansion of the arrested process reopen a poorly fibrosed lesion.

### ARTIFICIAL PNEUMOTHORAX

Probably the most universal method of producing collapse in tuberculosis is by artificial pneumothorax. This method for the most part is easily induced by the average chest physician and is fairly well tolerated by the majority of patients. Until recently, the question of how well the collapse was induced did not enter the equation until large series of cases were reviewed. In 850 pneumothorax cases Matson found that after 15 years of those who had an efficient collapse only 21% were dead; of those who had only partial collapse 50% were dead.

What percentage of artificial pneumothorax cases can we then call failures? Although the figures of various authors vary, most men will agree with Cutler in the statement that 40% are inefficient. Of these latter cases, it is possible to convert approximately 70% to efficiency by the operation of closed pneumolysis. Every case of chronic pulmonary disease sooner or later develops pleuro-pulmonary adhesions. In those cases where the disease process is more parietal, the adhesions are most abundant. The presence of such adhesions, although protective from a pathological viewpoint, prevents collapse over portion of the lung when induced. Moreover, these adhesions are always in a critical location when collapse is found to be inefficient; either they lie over a poorly collapsed area of disease, a cavity or often a whole lobe or a lung. In many cases the mediastinum is pulled to one side by the presence of these adhesions; nature is trying to induce collapse by whatever route possible.

### CLOSED PNEUMOLYSIS

Closed pneumolysis is one of the methods for cutting such adhesions, and of, therefore, converting an inefficient pneumothorax to efficiency. There are certain rules that one must heed before electing such a procedure:

1. The case must have an adequate trial at pneumothorax for from three to six months to determine which adhesions will stretch spontaneous-

ly. This interval of time gives the patient a few months of recumbency in which to improve general resistance.

2. There must have been a proper election of pneumothorax. In other words, the case must be a curable one.

3. There must be sufficient collapse to enable the instruments to be introduced.

4. Adhesions must be of a critical nature. This can only be ascertained after thoracoscopic study of the thoracic cavity. In general, there are three types of critical adhesions: (a) those which overlay a cavity; (b) those over honeycombing or a poorly fibrosed lesion, and (c) those which will eventually re-expand that portion of the lung they overlay in spite of positive pressure pneumothorax.

5. Adhesions must be of the type that can be safely severed. This can only be ascertained by study with the thoracoscope.

All men concerned with pneumothorax agree as to dangers of stretching adhesions. With positive pressure many adhesions will tear from the chest wall, but if the tear is from the lung tissue, empyema and broncho-pleural fistula result. It is impossible to tell which adhesions contain lung tissue in x-ray studies. Cutler found that only 67% of adhesions were shown in x-rays in a series of 200 selected cases. Again, many adhesions contain large blood vessels, and a tear with hemorrhage may result. As to type, adhesions may be strings, cords, fan-shaped, webs, bands and tent-shaped. Each adhesion must be studied individually, although, as a rule, it is rare to find lung or blood vessels in a string adhesion.

There are many technical considerations which must be kept in mind. First of all, a thorough knowledge of the structures of the thorax is essential. One must choose the most advantageous location for introduction of the thoracoscope and electrode so that the greatest number of adhesions will be accessible. Adhesions must be in view at all times during the process of cutting. Frequently, if an adhesion is not deemed safe to cut, repeated coagulation in stages will accomplish considerable necrosis and ultimate stretching. The patient must be watched for excessive collapse at any one time; such patients have high fever after a day or two from auto-tuberculinization. We do not hesitate to have oxygen nearby for use at the operating table or at the bedside later.

Most patients have very little post-operative reaction. Effusion invariably results but is of no consequence, and is readily absorbed. Purulent effusion results from cutting through active pleur-

(Continued on page 376)



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ORVILLE E. EGBERT, M. D.

At the twenty-fifth annual session of the Southwestern Medical Association, El Paso, November 9-11, 1939, Dr. Orville E. Egbert, of El Paso, was elevated to the office of president. He succeeds Dr. Howell Randolph, of Phoenix, Ariz., who served in that office during 1939.

Dr. Egbert was born in Nebraska July 30, 1888. His early education was obtained in Lee's Summit in Kansas City, Mo. Early medical training was taken at the University Medical College, Kansas City, Mo., from which institution he transferred to Baylor University College of Medicine, Dallas, Tex. He took his degree, Doctor of Medicine, from the latter institution in 1912. In 1915 and 1918 Dr. Egbert took post-graduate instruction in internal medicine at Tulane University, New Orleans. Further post-graduate study in diseases of the chest was taken at the University of Pennsylvania in 1925. Dr. Egbert was engaged in general practice until the entrance of the United States into the World War. At that time he was commissioned in the Medical Corps of the United States Army, where he served a total of two years. One year of his army service was spent overseas. He was in command as captain of Field Hospital No. 27, 3rd Division. Following the war, Dr. Egbert has engaged in private practice in El Paso. Much of his interest has been devoted to diseases of the chest and to allergy. He has been medical director of St. Joseph's Sanatorium since its founding in 1927.

The new president is married and has two children, a son and a daughter. He is a member of the El Paso Rotary Club.

Professional memberships are as follows: El Paso County Medical Society, Texas State Medical Association, American Medical Association, Southwestern Medical Association. Dr. Egbert is a Fellow of the American College of Physicians, the American College of Chest Physicians, and was certificated by the American Board of Internal Medicine in 1937. Dr. Egbert has been a member of the Southwestern Medical Association since 1923. He served that association as secretary-treasurer in 1936, 1937 and 1938. Currently he is vice-president of the El Paso County Medical Society.

Much of the solid progressive growth of the Southwestern Medical Association must be attributed to the unceasing interest and work of Dr. Egbert. He has actively identified himself in every move calculated to enhance the prestige of this society since the day he was enrolled as a member. The association has honored itself in the selection of Dr. Orville Egbert as its president as it enters the second quarter-century of its service to the physicians of the entire Southwest.

## THE EL PASO SESSION

With a final registration of 201, the Silver Anniversary Session of the Southwestern Medical Association, meeting in El Paso, November 9-11, was one of the most successful in the long history of the organization. 85 members of the Women's Auxiliary were registered, about half of whom were from out of town.

Great interest was displayed in the scientific exhibits. The committee in charge of these exhibits was headed by Dr. J. Mott Rawlings, of El Paso.

This year's exhibits were more extensive, broader in coverage of topics, were excellently presented. Dr. Rawlings was highly commended by all who had opportunity to view the fine job he did. Certificates of merit were presented several of the exhibits for their excellence.

Dr. Robert B. Homan, Jr., of El Paso, was chairman of the committee on technical exhibits. Several new commercial houses were represented in addition to ones who have exhibited in the past years. Those who visited these exhibits found them a liberal education in the therapeutic aspect of medical practice.

A valuable portion of the program was composed of a series of papers outlining the development of various medical specialties in the Southwest during the past 25 years. Participants were: Drs. S. D. Swope, El Paso; John E. Bacon, Miami, Arizona; M. K. Wylder, Albuquerque; G. Werley, El Paso; E. Payne Palmer, Phoenix; James Vance, El Paso; L. S. Peters, Albuquerque; John W. Cathcart, El Paso; R. B. Homan, Sr., El Paso; W. W. Waite, El Paso; K. D. Lynch, El Paso; Felix P. Miller, El Paso; and W. R. Jamieson, El Paso.

The El Paso County Medical Society gave a buffet supper on the night of November 9th, under the direction of Dr. James J. Gorman, President, and Dr. Chester D. Awe, chairman of the committee. Heretofore this event has been principally social in nature, but this year the program committee scheduled in addition papers by Drs. Leo Eloesser and Fred Albee. At the conclusion of this night session the men joined their ladies at the home of Dr. and Mrs. K. D. Lynch.

There were 8 guest speakers on this year's clinical program. They were: Dr. Fred A. Albee, New York City; Dr. M. Y. Dabney, Birmingham, Ala.; Dr. Leo Eloesser, San Francisco; Dr. Samuel Ingham, Los Angeles; Dr. Julius Lempert, New York City; Dr. Charles F. McCuskey, Los Angeles; Dr. L. H. Newburgh, Ann Arbor, Mich.; and Dr. Henry M. Winans, Dallas, Texas.

Committees appointed by Dr. Howell Randolph, President, were: Nominating Committee, Dr. W. W. Waite, El Paso, Chairman; Dr. Wm. H. Woolston, Albuquerque; and Dr. E. Payne Palmer, Phoenix. Necrology Committee, Dr. M. K. Wylder, Albuquerque, Chairman; Dr. R. B. Homan, Sr., El Paso; and Dr. George Irvine, Tempe, Arizona. Resolutions Committee, Dr. W. W. Watkins, Phoenix, Chairman; Dr. L. S. Peters, Albuquerque; and Dr. W. E. Vandever, El Paso.

At the annual election of officers the following were named: President-elect, Dr. Wm. H. Woolston, Albuquerque; 1st Vice-president, Dr. C. A. Thomas, Tucson; 2nd Vice-president, K. D. Lynch, El Paso; Secretary-Treasurer, Dr. M. P. Spearman, El Paso. Dr. Orville Egbert, El Paso, took office as President for the coming year.

The annual meeting of the Board of Managers of SOUTHWESTERN MEDICINE was held on Friday, November 10th. Dr. Paul Gallagher, El Paso,

presided. Reports of the Secretary, Dr. D. F. Harbridge, Phoenix, and of the Editor were heard. The Editor was re-elected for the coming year.

At the annual session of the Southwestern Academy of Eye, Ear, Nose, and Throat, Dr. A. E. Cruthirds, of Phoenix, was elected Secretary-Treasurer. The Society was addressed on "Deafness" by Dr. Julius Lempert, of New York City.

Tucson, Phoenix and Roswell, New Mexico, invited the Association for its next meeting. Phoenix withdrew in favor of Tucson, which city was awarded next year's session.

High credit is due Drs. W. Warner Watkins and Joseph M. Greer, of Phoenix, for the splendid program they arranged. Dr. Watkins was in charge of the Medical March of Time portion of the program. His long years of service in the Southwestern Medical Association have made him personally aware of the remarkable strides medicine has made in the Southwest in the past 25 years. This knowledge served him well in his excellent work of arranging the Medical March of Time.

The new President, Dr. Orville Egbert, expects to announce his appointments for the coming year in an early issue of SOUTHWESTERN MEDICINE

## BIRTH REGISTRATION

The New Mexico State Department of Public Health, in cooperation with the U. S. Bureau of the Census and the Arizona State Board of Health, are presently engaged in state-wide campaigns to increase birth registration. It is said that only 85% of births in New Mexico are properly registered, whereas a minimum of 90% is required to maintain good standing in the U. S. registration area.

Dr. E. B. Godfrey, New Mexico State Director, has released the following statement:

"Worthy of attention just now is the state-wide educational program, under the auspices of the State Department of Public Health, stressing the importance of birth registration.

Along with advancement in educational methods and facilities for teaching children in the public schools, of which we are justly proud, we might logically have expected that negligence in reporting births would have passed. Experience itself should have taught families the importance of birth records. Away back in 1836 England passed a birth registration act.

We have had momentous changes in our rural and urban life, changes in educational consolidation, religious changes, changes in the home-life; but we still continue our old habit of neglect. It is indisputable that "too few parents realize how essential legal proof of age, place of birth, and parentage may be to their children".

According to Dr. E. B. Godfrey, state director of public health work, "thousands of children are growing to adulthood without the advantages in life a birth certificate gives." Relative to the ne-

(Continued on page 381)



## *Special Section* Arizona State Medical Association

PRESTON T. BROWN, M.D., *Associate Editor*  
403 Professional Bldg., Phoenix, Arizona

### HOSPITAL INSURANCE PLAN INAUGURATED FOR ARIZONA.

The inauguration of a hospital insurance plan on a non-profit basis has been completed and is now under way in Arizona. Dr. W. Paul Holbrook, General Chairman of the Association Committee on Medical Economics, and Dr. J. B. Littlefield, Chairman of the Sub-committee on Low Income and Indigents, have made a careful study of the plan and report that it meets the requirements of the American Medical Association for such insurance plans.

The organization, under the name of the Associated Hospital Service of Arizona, has opened offices at 114 South Central avenue, Phoenix, with William J. Wasson as secretary and manager.

Its plan, worked out over a period of two years' time, has been constructed along outlines suggested by the commission of hospital service of the American Hospital association.

St. Joseph's hospital and the Good Samaritan hospital at Phoenix, the Mercy hospital in Prescott and the St. Mary's hospital of Tucson are member institutions. Other general practice hospitals may be added in the future.

#### INSTALLMENT PLAN

Under the service's plan, hospital treatment is extended to employed groups, with payments to be made on monthly, quarterly or annual installments. Both individual and family applications may be made.

An employed person must subscribe with others of the organization where he works and when there are less than 20 and more than five, 100 per cent of the employees must enroll. Where there are 20 or more employees, 40 to 60 per cent must enroll, depending on the total number and the percentage of women employed. They must be residents of the area served by the member hospitals.

Benefits of the plan do not include special laboratory procedure, physicians' prescriptions, X-ray service or anaesthetics, but only such items usually provided by hospitals. The patient may choose his own physician, provided he is a member of the county medical society and eligible to practice in the member hospitals.

The service provides 21 days hospitalization for accident or emergency illness or other illness or injury immediately after acceptance of the application.

The plan is patterned after others in successful operation over the country.

#### OFFICERS NAMED

Officers of the group, in addition to Mr. Was-

son, are: Dr. Preston T. Brown, President; Wallace L. Kolberg, vice-president, and Glenn C. Taylor, treasurer. Directors, all of whom serve without pay, are Dr. Frank J. Milloy, J. O. Sexson, Sister Mary Thomas, R. N.; Robert A. Macfarlane, Dr. Norman A. Ross, Dr. Thomas W. Woodman, Frank J. Duffy and Dr. Florence B. Yount.

### NECROLOGY

WILLIS D. GILMORE, M. D.

In the passing of Dr. Willis D. Gilmore, Arizona has lost a physician who has contributed much to the problem of tuberculosis in the state. The major part of his professional career was spent in public health service or in institutional work, directing his attention to tuberculosis as his chief interest and specialty.

Dr. Gilmore was a native of North Carolina and a graduate from the University of North Carolina School of Medicine in 1903. He came to Arizona in 1934 from Michigan where he had been serving for several years as assistant medical director of the Michigan State Tuberculosis Sanatorium. In 1935 he joined the personnel of the Arizona State Department of Health in charge of the Tuberculosis Mobile Unit which toured the state checking tuberculosis among school children and college students.

Preceding his demise, which occurred on October 19, due to a sudden heart attack, Dr. Gilmore had been in attendance at the University of Michigan taking a special course in tuberculosis in relation to public health, and had anticipated returning to Arizona on November 1st to resume his work with the State Department of Health. While Dr. Gilmore's general health had not been good for some time, his sudden passing came as a distinct shock to his family and many friends. Interment was at Wauseon, Ohio on October 21st, his immediate survivors being his wife and two children.

Dr. Gilmore was a member of the Cochise County Medical Society, the Arizona State Medical Association and the American Medical Association.

#### GEORGE M. BROCKWAY, M.D.

On October 17, 1939, Dr. George M. Brockway passed away at South Pasadena, California of a sudden heart attack. His passing is lamented by his associates in Phoenix where he was engaged in active practice for twenty-five years, leaving Arizona a year and a half ago to reside in California where he had property interests. It was Dr. Brockway's intention to return to Phoenix and he had plans under way to engage in practice here again when death overtook him.

## *The President's Page*

### WANTED—A DOCTOR!

WHEN the Wagner Bill was introduced at the last regular session of Congress it virtually read: WANTED—A DOCTOR! the bill itself being a trial balloon to note the direction of public and medical opinion on the question of the Government's employing "such physicians". This measure as similar health movements—shall we say, political—presupposes a definite lack of medical care for the public at large without taking into account what the lack of food, clothing and shelter—due to unemployment—has had to do with the impoverished health of people.

In some form or other this measure will rise again. It is my recommendation that each county medical society set aside time during this season to study the Wagner Bill as originally introduced, as well as articles appearing on the subject in the Journal of the American Medical Association and in the press. I do not believe that the public at large understands the Wagner Bill, but I do feel they would appreciate knowing from the medical profession what it is all about.

The medical profession—our societies—should devote considerable time to studying the various forces which are operating in society to formulate public opinion. The Wagner Bill is such a force. Physicians must study such movements for the benefit of the public and the doctor. The medical profession must get its own proposition and solution before the public for the well being of all concerned.

An article in the October issue of the Illinois Medical Journal expresses the situation precisely. You will find it quoted on page 375 of this Journal.

In all sincerity,

A handwritten signature in dark ink, reading "Geo. L. Smith M.D." in a cursive script.

PRESIDENT, ARIZONA STATE MEDICAL ASSOCIATION.



Educated in the East, being a graduate from the Buffalo University School of Medicine, Dr. Brockway, after practicing in New York, first came west to locate in Southern California. He left California to locate at Florence, Arizona where he served as county health officer, as superintendent of the county hospital, and engaged otherwise in community activities for many years. He was mayor of Florence and served at one time as physician for the state prison.

Dr. Brockway located in Phoenix in 1913, taking an active part in medical activities. He served as president of the Maricopa County Medical Society, and as Vice-president of the Arizona State Medical Association. He was a member of the American Medical Association, and maintained all his medical affiliations to the time of his death.

The memory of Dr. Brockway will long be cherished by his associates and friends. He is survived by his wife who is in precarious health, and by one son.

#### ANALYSIS OF RECORDS OF FRACTURE PATIENTS DISCHARGED FROM GOOD SAMARITAN HOSPITAL, 1939

DONALD A. POLSON, M. D.

One hundred and one patients with fractures have been discharged from Good Samaritan Hospital from January 1 to September 1, 1939. This does not include dislocations unless such an injury complicated a fracture. Patients admitted for x-rays, reduction and a short period of observation in the hospital, a day or less, were included, and one case reduced in a surgeon's office then hospitalized was included. Records of fractures seen in the emergency room, treated and allowed to go home were not included.

Private patients were most numerous with 54 per cent, but the county service was not far behind with 34 per cent. Only 8 per cent were listed as Industrial Commission cases, and the Agricultural Workers Health and Medical Association was responsible for 5 per cent.

The average patient with a fracture stayed in the hospital about 18 days. Twenty-one of the 101 cases spent only three days or less, just time for reduction and a short period of observation to see how well the cast fit, etc., and three died within that period. Seventeen patients spent more than a month here. As might be expected, they had either fractures of the pelvis, of femoral neck, of bones of the legs upon which continuous traction must be maintained, or, in three cases, osteomyelitis.

There were five octogenarians in the group; four of them had a fracture at the femoral neck. Of the 22 patients over 60 years old there were eight with this type of fracture, by far the most common type in this age group. The youngest victim was a year and a half old, who suffered a greenstick

fracture of the ulna when his arm was put through a wringer.

The femur was the bone most frequently fractured, or 21 per cent of the total cases, 11 of the femoral neck, nine of the shaft, and one of the greater trochanter. A close second was the tibia with 19 per cent; then the radius with 15 per cent; fibula with 13 per cent; humerus with 12 per cent; ribs with 11 per cent; ulna with 10 per cent; pelvis and skull 6 per cent each clavicle with 5 per cent; mandible with 3 per cent. Nose, cervical vertebra, and lumbar vertebra, and patella with 2 per cent each. Astragalus, metatarsal and phalanx with 1 per cent each. The most common fracture was a both bone fracture of the lower leg, with Colles and the femoral neck a close second and third. Fourteen per cent of the patients had more than one type of fracture.

Only 5 per cent of the patients suffered compound fractures, excluding the three mandibles, but of this small group three died, two due to gas gangrene, the other due to shock and a chest injury, making a 60 per cent mortality in compound fractures.

A study of the cause of the injuries was most revealing. Fifty per cent of them were due to falls, falls off a horse, from fences, on roller skates; and 20 of them were adults who either slipped or stumbled while walking. Seven of the charts recorded the fact that the patient had tumbled after slipping on a small rug at home. Two patients forgot the last step, and two fell down short flights of steps. Five slipped on a too smooth surface, a wet floor, a wet sidewalk, or in the bathtub. Several charts merely stated "fell at home, or fell in yard" in the history, so possibly there were more of these easily avoidable accidents. In one case an elderly woman piled books on top of a chair, climbed up to reach something, and fell off.

Only 16 per cent were the result of automobile accidents, fewer than were injured by falling on the floor at home, and less than a third as many as were hurt by falls of all kinds.

Not included in automobile accidents were fractures in pedestrians struck by an automobile, of which there were 7 per cent, the same number that slipped on small loose rugs at home. Blows by various things from the barn door to a fist were responsible for 11 per cent. Motorcycle accidents resulted in 3 per cent of our cases. A mine injury, its exact character not given, caused one fatal injury. One was the result of catching a hand in a wringer. There was only one pathological fracture, it being due to osteitis fibrosa cystica. One patient in a cast after an osteotomy on one leg rolled over in bed and broke his femur on the well side.

Injuries other than fractures and concomitant diseases increased the length of hospital stay and raised the mortality somewhat. A spontaneous pneumothorax resulted in death in one instance. One skull fracture died of the brain injury. Four

charts mentioned shock as an initial complication with death resulting from it in two. Several had to be kept in the hospital for a long period because of such diseases as hypertension, arthritis, deformans, and C. N. S. syphilis.

There were not a few serious complications. Two patients developed pneumonia, one of whom died. Another died of pelvic and mesenteric thrombosis after 45 days in the hospital. Another recovered from pelvic thrombophlebitis. There were five definite cases of osteomyelitis, four in compound fractures and one after an open reduction. Two cases of gas gangrene in compound fractures were both fatal, one nine and the other ten days after the injury.

Treatment in both of these cases included early debridement. One chart showed that one prophylactic dose of tetanus and gas antitoxin was given. The other probably had some, but no record of it could be found in examination of the chart.

There was an 11 per cent incidence of open reductions. Four of the 11 fractured hips were opened and some type of internal fixation used. Two fractures of the shaft of the humerus were treated by open reduction and one each of the humerus at the elbow, the ulna at the elbow, both bones at the elbow, both bones at the wrist, and a Pott's fracture. Fifteen per cent of the cases were treated by continuous traction over an extended period. Skeletal traction was used in 50 per cent of these.

A closed reduction was retention in a cast was the general rule, 35 per cent being treated in that manner. Fifteen per cent required no reduction and were merely put in casts. One fractured pelvis required a cast, while the rest needed only bed rest. The five skull fractures that recovered were treated by four to 12 days bed rest, and only three needed dehydration therapy. One had frequent lumbar punctures, but none were operated upon.

Not much may be said about results, as most of the patients were dismissed in some type of retention apparatus, the chart being marked "improved" or "good." There was a 7 per cent mortality, two deaths being due to gas gangrene, two from initial traumatic shock, one to pneumonia, one to a mesenteric thrombosis, and one due to brain injury. One chart was signed out as not improved, and another discharged with a non-union of the femur. Final results in the rest of the cases can only be guessed.

#### SUMMARY

1. An analysis of the charts of 101 fracture cases discharged from Good Samaritan Hospital, January 1 to September 1, 1939, is presented.

2. Fifty-four per cent were private cases; 34 per cent were county; 8 per cent industrial, and 5 per cent agricultural workers.

3. Average hospital period was 18 days. Twenty-one per cent spent three days or less, and 17 per cent spent a month or more in the hospital.

4. Age incidence showed nothing remarkable, except to demonstrate again that older people are very prone to fracture the neck of the femur.

5. The femur was the bone most frequently fractured, 11 per cent of the total cases; and tibia and radius followed with 19 and 15 per cent.

6. Compound fractures were infrequent, 5 per cent, but the mortality was extremely high in this group.

7. Causes of injury were well worth further consideration inasmuch as 50 per cent of them were due to falls, for the most part accidents in the home or yard. Only 16 per cent were the result of automobile accidents, and the number of pedestrians struck by automobiles just equalled the number of patients that slipped on loose rugs in their own homes.

8. There was an 11 per cent incidence of open reduction; 15 per cent needed traction for an extended period; 35 per cent were managed by closed reduction and cast, and 15 per cent required no reduction but were immobilized in splint or cast.

9. Mortality was 7 per cent, gas gangrene and initial shock accounting for four of the seven that died. There was only one non-union, but accurate conclusions on final results cannot be drawn.

#### COUNTY MEDICAL SOCIETIES SHOULD DISCUSS WAGNER BILL

"Every one of the two thousand or more of the County Medical Societies should devote at least one or more of the fall and winter monthly meetings to a joint session of doctors, dentists and druggists and allied professions, together with members of the legal profession and the ministry. At a conference of this kind, problems of common interest can be properly discussed. There is no question but what there is a movement on foot to make all scientific vocations bow to Government paternalism. It is time for the allied interests to prevent regimentation, not only for the medical but all the professions.

There is only one answer so far as the doctors are concerned to the Wagner Bill and that is "No!" We cannot depend on the politicians to sponsor our cause in legislative halls. The rank and file will have to make whatever effort is made to head off the attempted regimentation which is sweeping over the country like a cyclone.

The rank and file which make up the membership of over two thousand component medical societies throughout the nation seem to feel that the officers of their respective county, state and national organizations have been elected to do the job of fighting the aggression of bureaucratic control of everything and everybody. This impression is dead wrong and impossible of accomplishments. No army of generals ever won a battle. It is the soldiers in the ranks who do the actual fighting. The officers of your county, state, and national organizations can provide the ammunition and formulate strategy and certain technics needed for victory. But the power to win or the lethargy and laziness, which means defeat, rests entirely upon the fortitude and alertness engendered by the personnel that makes up the component county and respective state societies."

—Editorial—Illinois Medical Journal  
October, 1939.



PROCEEDINGS OF EL PASO COUNTY  
TUMOR CLINIC  
September 26, 1939  
EL PASO CITY-COUNTY HOSPITAL

Present: Doctors Branch, Cathcart, Green, Saford, Snidow, Giere and Smith.

Dr. Leslie M. Smith presided.

*Case 1* presented by Dr. Sullivan from City-County Hospital. A 65-year-old Mexican woman had a firm mass in the left epigastrium of two years duration. It had grown slowly. She had lost 20 pounds in weight. For the past year the growth had been painful, with burning sensation in the left side. Gastric analysis revealed total acidity of 20. There was occult blood in the stool. Hemoglobin was 62 per cent.

Gastroscoy by Dr. Carl Giere showed beginning tumor infiltration near the angulus. An ulcer with necrotic base was present on posterior wall of the stomach.

Fluoroscopic examinations showed the stomach filled easily without obstruction. On greater curvature slightly above middle there was persistent filling defect. Roentgenograms showed large filling defect in the greater curvature. At five-hour examination the stomach was empty and the meal mostly in the ascending colon.

Diagnosis: Carcinoma on greater curvature.

The concensus of the staff was that the condition was inoperable.

*Case 2* presented by Dr. Sullivan. A 36-year-old Mexican woman had noticed a mass in the left breast for the past month. Tumor was adherent to skin. One axillary node was enlarged.

Roentgenogram of chest essentially negative.

The staff recommended removal of the growth and immediate biopsy. There was some question as to whether this was a carcinoma or a chronic cystic mastitis.

*Case 3* presented by Dr. Goodloe. A 65-year-old Mexican man complained of pain in the epigastrium of several years duration which had recently become more severe.

Fluoroscopic examination after barium meal showed a large stomach with the pyloric portion nearly in the pelvis. There was no filling defect. Eight-hour film in prone position showed stomach in normal position still filled with barium. A narrow stream of barium was passing through duodenum, first portion of which was very narrow. Gastric analysis revealed the absence of hydrochloric acid and a total acidity of 50. There were no Boas-Oppler bacilli, and no occult blood.

This patient had a positive Wasserman several years ago, and a small amount of anti-syphilitic treatment.

Opinion of the staff: Pyloric obstruction, cause undetermined, possibly spasm or stricture.

Recommendation: Anti-syphilitic treatment, expectant medical treatment, possibly a gastro-enterostomy later.

## CLOSED PNEUMOLYSIS IN PULMONARY TUBERCULOSIS

(Continued from page 369)

al tuberculosis. Subcutaneous emphysema occurs frequently, but is not over-discomforting and subsides in a few days. Refills of air are resumed as before the pneumolysis. It will frequently require less air due to better collapse. We encourage patients to be out of bed after five days, and back to their pre-operative routine in ten days.

The mortality is negligible. We have had no mortality in a series of 32 thoracoscopies. Of this number 6 were abandoned due to the nature of adhesions. 1 of these was found to have a concomitant metastatic carcinoma of the pleura. Of those who were subjected to pneumolysis 21 were successful, 3 had fair results and 2 were unimproved. Of these latter 5, 2 patients died, 1 from contralateral spread a year later, and 1 from spontaneous collapse eight weeks later. 1 patient was referred for thoracoplasty, and the others are still unsuited for radical collapse therapy. Of the successful group, the adhesions were holding open in a cavity in 16 cases, honeycomb area in 3 cases, and a re-expanding lesion in 2.

Some of the patients had other minor forms of collapse as phrenicectomy. We do not believe that a phrenic operation takes the place of the pneumolysis, nor is the reciprocal true. It is foolhardy to collapse undiseased areas of the lung when severing a few small adhesions will afford collapse to the diseased area. Moreover, phrenicectomy in a number of these patients held too much pulmonary tissue inactive that the patient needed for his vital capacity.

Pneumolysis must attack the whole lesion to be successful. If not, there are other methods of collapse that would probably be more suitable for the the case: as thoracoplasty, extrapleural pneumolysis, extrapleural pneumothorax, or even open pneumolysis. Matson was able to convert 66.9% of the lesions in 138 patients, and obviously, as in our series, the remainder were not suitable for the operation.

### CONCLUSIONS

1. Closed pneumolysis is a safe method for cutting pleuro-pulmonary adhesions in tuberculosis.
2. The operation is reserved for about 30% of the cases of artificial pneumothorax which become inefficient due to adhesions.
3. A series of 30 cases is presented herein, in which it was possible to bring about successful results in 19, and improvement in 3 more. There was no operative mortality in the series.

## NEWS

### General

The written examination and review of case histories (Part I) for Group B candidates of the American Board of Obstetrics and Gynecology will be held in the various cities of the United States and Canada on Saturday, January 6, 1940, at 2 p. m. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June, 1940. Receipt of Group B applications for the current examination (January 6, 1940) closed October 4, 1939.

Candidates who are required to take re-examinations must do so before the expiration of three years from the date of their original examination.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire board, meeting in Atlantic City, N. J., on June 8, 9, 10 and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York City.

Application for admission to Group A, Part II examinations must be on file in the secretary's office not later than March 15, 1940.

After January 1, 1922, there will be only one classification of candidates, and all will be required to take the Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh (6), Pa.

The United States Civil Service Commission has announced an open competitive examination for the position of junior graduate nurse, \$1,620 a year, in the U. S. Public Health Service, and the Veterans' Administration. Because of the demand for qualified eligibles applications will be received at the commission's Washington office until further notice. Persons whose applications are accepted will be notified when to appear for an assembled written test.

Applicants must have had certain high school education, and must have completed a full course in a recognized school of nursing requiring a residence of at least two years in a hospital having a daily average of 50 bed patients or more. The requirement as to the daily average of patients may be waived under certain conditions. Applicants must also have been registered as graduate nurse in a state, territory or the District of Columbia. Applications may be accepted, under specified conditions, from persons in their final year of nursing training, and from persons who have completed their training but have not been registered as graduate nurse. Applicants must not have passed their 31st birthday. Certain physical requirements are also prescribed.

The examination announcements giving addi-

tional information as to the requirements for the examination may be obtained from any first- or second-class post office, from any of the commission's district offices, or from the commission's central office at Washington, D. C.

The American Board of Ophthalmology announces that there will only be one written examination in 1940. The written examination will be given March 2, 1940, in various cities throughout the country.

All applications for this examination must be received before January 1, 1940. All applicants must pass satisfactory written examination before being admitted to oral examination.

Oral examination will be given in New York City June 8 and 10, 1940. Fall examination will be announced later. Candidates planning to take the June examination must file case reports before March 1, 1940.

For application blanks write at once to Dr. John Green, 6830 Waterman avenue, St. Louis, Mo.

### El Paso

A regular meeting of the tumor clinic was held at City-County Hospital Tuesday, October 10, 1939, at 1 p. m. The program was as follows:

1. Tumor of lower jaw.
2. Hodgkin's disease.
3. Abdominal tumor (child).

A regular meeting of the El Paso County Medical Society was held October 9, 1939, at 8 p. m. in the tea room of Hotel Cortez. The scientific program was as follows:

"Spinal Injuries with Nerve Damage," Dr. Ralph Stuck, Denver, Colo.

Report of special health committee, Dr. Frank O. Barrett, chairman.

The regular meeting of the El Paso County Medical Society was held October 23, 1939, at William Beaumont General Hospital, El Paso, at 7 p. m. Dinner was served in the patients' mess hall. The scientific program followed at 8 p. m.

Medical Service—Col. Thomas E. Scott, M. C., Chief of Service.

1. "Bradycardia Due to A-V Rythm with Retrograde Beats," Col. Thomas E. Scott, M. C.

2. "Renal Diabetes," Lt. D. J. Sheehan, M. C.

3. "Spontaneous Hemopneumothorax," Capt. H. B. Luscombe, M. C.

Surgical Service—Col. Raymond W. Bliss, M. C., Chief of Service.

1. Case reports (a) "Coccidioides"; (b) "Ruptured Appendix Due to Amebiasis," Capt. George Horsfall, M. C.

Attendance was 150.

A regular meeting of the Tumor Clinic was held at City-County Hospital, Tuesday, October 24, 1939, at 1 p. m. The program was as follows: 1. Hodg-



kin's disease. 2. Pituitary tumor. 3. Pituitary tumor.

The regular dinner and meeting of the Southwestern General Hospital Staff was held in the hospital auditorium on Thursday, October 26, 1939, at 6:30 p. m. The scientific program was as follows: "Endometriosis," Dr. Gerald H. Jordan. Discussion was opened by Dr. Francis A. Snidow.

Drs. Raymond Hughes and Louis Breck, of El Paso, addressed the Reeves-Ward-Winkler County Society October 10, 1939, at Pecos, Texas. They spoke on "Common Dermatoses," and "Complications in the Treatment of Fractures," respectively.

### *New Mexico*

Fellows and Members of the International College of Surgeons residing in New Mexico met at the home of Dr. W. R. Lovelace of Albuquerque, N. Mex., at a dinner August 30, 1939, and completed the formation of a Postgraduate Study Guild. Dr. Lovelace was elected president of the Guild and Dr. D. F. Monaco, of Gallup, N. Mex., was elected secretary and treasurer.

## AUXILIARY NEWS

### *El Paso County*

The first meeting of the El Paso County Medical Auxiliary was held October 9, 1939, at the home of Mrs. Frank Goodwin.

Mrs. Henry Safford, first vice-president, presided in the absence of the president, Mrs. Branch Craige. The motion was made and passed that the Auxiliary should not have a Community Chest team this year.

After the business meeting, the program was given. Mrs. I. M. Epstein played two piano solos, "Opus 7, No. 1, Joseph" (Rheinberger), and "Prelude in C Sharp Minor" (Rachmaninoff). Dr. Leslie Smith spoke on "Cosmetics." Dr. M. P. Spearman, secretary of the Southwestern Medical Association, spoke regarding the meeting of the association to be held in El Paso November 9, 10 and 11, 1939.

Tea was served. The hostesses were as follows: Mesdames S. D. Armistead, Chester Awe, A. P. Black, W. M. Branch, W. W. Britton, W. L. Brown, George Brunner, Ira J. Bush, A. H. Butler, J. W. Cathcart, E. G. Causey, E. J. Cummins, W. R. Curtis, H. P. Deady, L. O. Dutton, I. M. Epstein, S. J. Gaddy and Paul Gallagher.

—Malvina Spearman.

## MISCELLANY

### PHYSICIANS IN WAR

We wonder what will happen to the practice of the men who go away to war. The British Medical Association has arranged a most complete scheme whereby those practitioners who go into the army or navy will have their patients taken care of, whereby they receive part of the income from the care of patients and whereby the patients will be returned to the men who have gone after the war has ceased. It is hoped that in the event America gets into the war some such arrangement will be made in this country. The men who were left behind in the last war were overworked and the men who were in the army thought they were losing or had lost their practice. Bad feeling was engendered between the two groups which can be done away with by foresight and planning. It is certainly hoped that our medical organizations will take into earnest consideration what will be done for the men who go away as well as how best the men who are left can have their assignments.

—N. O. M. and S. Jo.

### AMERICAN LONGEVITY

When compared with most of the countries for which data are available, the United States now ranks very high in expectation of life at birth. Thus, in recent comparable periods, the expectation of life at birth in the United States was greater than that in Belgium by about three years, Czechoslovakia by almost eight years, England and Wales by a little over one-half year. Irish Free State by three and three-quarters years, Finland by six years, France by four and two-thirds years, Germany by somewhat over one year, Italy by almost six and one-half years, Poland by twelve and one-third years, and Scotland by four years. Switzerland, in the period from 1929 to 1932, and the Union of South Africa, in 1936, had expectations of life at birth not far different from that of white persons in the United States in the same periods. On the other hand, the Scandinavian countries, Australia and New Zealand still rank above the United States in average length of life. The differences in favor of these countries in recent comparable periods are: Sweden, two years; Denmark, one-half year; Norway, two and two-third years; Netherlands, three and one-third years; Australia, two and three quarter years, and New Zealand, four and three-quarter years. Although these countries make better showings than the United States as a whole, several of our states compare favorably with them. These states, which form a solid block in the Midwest, include the Dakotas, Iowa, Kansas and Nebraska.

Although the expectation of life at birth in the United States is continuing in its upward trend,

the pace has slackened in more recent years. This situation may be quite normal, for it could hardly be expected that the rapid advance experienced in the years from 1910 to 1930 could continue indefinitely into the future. There is, however, no good reason why the improvement in our longevity should not be fast enough to enable us to catch up, in a relatively short time, with those countries whose expectations of life at birth are now greater than ours. Certainly we have available the knowledge, skill and wealth which should help us into first place among the countries of the world in regard to longevity.

—Calif. and West. Med.

#### TYPHOID VACCINE TREATMENT OF TRIGEMINAL NEURALGIA

1. Typhoid vaccine therapy, given intravenously, is a definite adjunct to the armamentarium in the treatment of trigeminal neuralgia.

2. Satisfactory results may be expected in 56 per cent of the cases and amelioration of symptoms in 95 per cent.

3. Fifty per cent of the cases, showing only partial response to surgical forms of therapy, may be cured clinically by typhoid vaccine therapy.

4. Women showed a slightly better response than men to this form of treatment in our series.

5. A moderate thermal response is as satisfactory as a high temperature reaction in treating trigeminal neuralgia.

6. Snake venom in a trial group proved unsuccessful in relieving pains of this character.

—Wis. Med. Jo.

#### CULTISTS IN HOSPITALS

The county court may exclude from the staff of a public hospital any osteopath, chiropractor or practitioner of any other cult. This matter has been decided by a number of courts in this country and has even been passed upon by the United States Supreme Court. The United States Supreme Court also decided that, if a county court excludes a physician (an osteopath was involved in that particular suit), the practitioner cannot complain that his constitutional rights have been denied to him. In another case decided by the Supreme Court of Colorado, the court held: "A physician has no constitutional or statutory right to practice his profession in a county hospital. The county board has complete supervision and control of county hospitals in this state. A regulation excluding from the county hospital, or the right to practice therein, the devotees of some of the numerous systems or methods of treating diseases authorized to practice their profession in Colorado is neither unreasonable nor arbitrary. \* \* \* The court cannot substitute its judgment for that of the county board. \* \* \*"

—Northwest Med.

#### PERCEPTIVE DEAFNESS

Various diseases or lesions may result in an acquired perceptive type deafness, such as:

1. Trauma with fracture of the temporal bone. This usually results in unilateral total deafness.

2. Certain drugs such as quinine, arsenic, salicylates, lead, mercury, alcohol and nicotine may affect the acoustic branch of the eighth nerve with partial or complete deafness.

3. Toxins from a focus of infection or from the various acute infectious diseases may affect either the cochlear or vestibular branches of the eighth nerve, resulting in deafness or in Meniere's syndrome. As a rule, the cochlear branch only is affected. Mumps may result in a severe type of deafness with involvement of the middle ear, in which the deafness is usually complete and permanent. The exact mechanism by which deafness from mumps occurs is not known, but it is assumed to be a meningeoneuritis.

4. The various bleeding diseases, such as leukemia, hemophilia, etc., may produce a sudden onset of deafness from hemorrhage into the labyrinth.

5. Severe anemias with a possible diminution in the blood supply to the labyrinth may result in decreased hearing.

6. The senile type of deafness is probably due to arteriosclerosis.

7. Certain occupations, such as boilermakers, artillerists, etc., have a perceptive type of deafness which seems to be due to repeated concussions of the eighth nerve endings. Caisson workers may have a gas embolism or have a labyrinthine hemorrhage as a result of sudden changes in air pressure.—Northwest Med.

#### PERITONEOSCOPY

##### Indications.

1. Non-inflammatory diseases of the organs within the greater sac of the peritoneal cavity, excluding the pancreas, kidneys, and other retro-peritoneal structures, and the contents and borders of the lesser peritoneal sac.

2. Old chronic inflammatory diseases of the pelvic organs.

3. Suspected neoplasms of the pelvic organs.

4. Suspected ectopic pregnancy.

5. Splenomegaly.

6. All cases of ascites not of cardiac origin.

7. Tubercular peritonitis.

##### Contraindications

1. All acute inflammatory diseases of the abdominal cavity.

2. Pneumonia.

3. Stab wounds and bullet wounds of the abdomen.

4. Cases with intestinal obstruction or distension of either the small or the large intestine.

5. Acute perforations of any viscus.

6. Heart failure and advanced cardiac decompensation in the absence of ascites.



7. Advanced pulmonary tuberculosis of both lungs.

8. Extensive operative scars and adhesions thereto.

The contra-indications must be frequently and firmly stressed lest an accident, such as perforation of the bowel, or sudden death, or the spread of an infection causing generalized peritonitis, be blamed on the instrument rather than on the faulty judgment of the operator. In our experience, one may be called upon to perform peritoneoscopy on cases for which it is not indicated.

—Jour. M. S. N. J.

#### DIPHTHERIA IMMUNIZATION

The modern trend of opinion among health officials is to advocate immunization of the child at about nine months of age; followed by Schick re-testing on entering school; and the administration of another cycle of injections to children that have lost their immunity. It is believed that this is probably the most logical plan that may be adopted in line with our present information on the subject.

Incidentally, this procedure would be similar to the plan adopted in various European countries for vaccination against smallpox, the first vaccination being done in infancy, and a second on entering school.

It must be said that, while the last word on the subject has not yet been written, the following would seem from a practical viewpoint to be the wisest and safest procedure, in the opinion of various health officers:

Use the plain toxoid as the material of choice.

Give two injections as a minimum; but three are preferable.

Begin the injections at about nine months of age.

Check this immunity four months later by a Schick test.

Re-test the children on entering school as to the persistence of their immunity.

Reinoculate those children found to have lost their protection.—Jour. M. S. N. J.

#### PHYSICIAN AS THE PATIENT

We shall first consider the attitude of the physician who becomes a medical or surgical patient. When we are in our usual good health, we can conduct ourselves in a cool and reasonably intelligent manner; but when we are sick, our behavior is governed by emotion and by professional habits and instincts. Habit leads us to make a diagnosis and to suggest treatment, but alas, judgment is especially difficult and experience most fallacious when we ourselves are the objects of our own observation. I remember a physician who made a diagnosis of his own illness as typhoid fever, sent for a barber to cut his hair, a lawyer to make his will, and then called a colleague who found a mild

food poisoning which involved a few days' confinement. This man described to me the absolutely convincing certainty with which his symptoms pointed to typhoid. It is an axiom in our profession that a physician should not diagnose his own case, but in practice we forget the axiom. The sick physician should make a complete surrender; he should leave the making of a diagnosis to his colleague; he should take the medicine without objection; he should not give orders to the nurses; if he wants counsel, he should ask his attending physician to make the proper arrangements. Let him remember that no man can be a physician and a patient at the same time.

The position of the physician attending a sick colleague, medical or surgical, is one of many responsibilities, the details of which should be clearly formulated and unflinchingly carried out. All concerned should know who is the captain of the ship. The attendant is most solicitous for a successful issue and, like the anxious golfer, he is apt to press. It is hard for him to maintain the calm, objective mental state which is essential to good judgment. He is apt to yield to the desires or prejudices of the patient in regard to treatment in medical cases or, in surgical cases, in regard to the anesthetic, the relief of post-operative pain, and in other details.—Penn. Med. J.

#### ZORBIT.

The Bureau of Investigation of the American Medical Association reports that Zorbit, Incorporated, Montclair, N. J., sold through the mails a reddish brown powder that when applied to the feet was represented to alleviate the pain of arthritis, rheumatism, neuritis, sciatica and lumbago. Zorbit seems to be a Canadian fake, for the advertising declared that it "has helped thousands in Canada", and it was added, is "now available to sufferers in the U. S. A." According to the advertising William F. Teetzel, President and Managing Director of Zorbit, Incorporated, perfected "after years of painstaking research, a formula that could be readily absorbed into the bloodstream." The reddish brown powder called "Zorbit" had the following composition: Iodine, resublimed, ½ part; cascara bark, powdered, 3 parts; nux vomica, 1 part; baking soda, 4 parts; senna leaves, 4 parts; mandrake root, 6 parts; sulfur, resublimed, 6 parts; iron carbonate, 5 parts; and enough iron oxide to make the powder red! The instructions for the use of Zorbit were to bathe the feet in warm water, leave them moist, apply a bottle-cap full of the powder to each foot and repeat the treatment on alternate days. As this powder would not be absorbed into the blood stream, and certainly would not restore sufferers with rheumatism, arthritis, sciatica, neuralgia or lumbago to "perfect health," the Post Office Department declared Zorbit a fraud and on Sept. 1, 1938, closed the mails to Zorbit, Inc., and also to W. F. Teetzel. (J.A.M.A., June 10, 1939, p. 2453.)

### THE VITA COMPANY FRAUD

The Bureau of Investigation reports that, according to a memorandum of the Acting Solicitor for the Post Office Department to the Postmaster General, Chester A. Cremin and his wife, of Chicago, advertised and sold through the mails a preparation called "Vita Vaginal Suppositories," which they claimed were a treatment for suppressed or excessive menstruation, "whites," vaginitis, inflammation and tumors of the uterus, as well as for displacements and prolapse of that organ. While Cremin was said to have declared that he was the sole owner of the business, the federal authorities charged that Cremin's wife actually conducted the business. The government chemists found that Vita Vaginal Suppositories consisted of boric acid, Glauber's salt, petrolatum and lycopodium. As this combination could not by any stretch of the imagination set forth in the advertising, and moreover, as sole reliance on this "patent medicine" might in certain cases lead to serious illness or even death, the scheme was declared a fraud and on Sept. 7, 1938, the mails were closed to the Vita Company and to Mrs. C. A. Cremin, Mgr. (J.A.M.A., June 24, 1939 p. 2623.)

### CARE OF THE PATIENT

In regard to the initial approach to our patients: it is well to remember that they are all frightened, all apprehensive and many of them hypersensitive. It behooves every young man to develop a finesse in dealing with these people. It takes a certain personality to succeed in any walk of life. Many have it by natural inheritance, and others may acquire it by studying the ways of successful men and by developing within themselves those characteristics which make life a success; but, unfortunately, a few never can acquire the right type of personality which is so essential to success.

The student, the intern and every young physician should study the ways of his teachers, for invariably the successful teacher is a man of broad understanding and vision, a kindly man who is gentle and considerate with all his patients irrespective of their walks in life. I am grateful to my chiefs for teaching me many things which could not be learned in the operating rooms and in the laboratories, and I value my association with them while on rounds in the wards, in ward classes and in their consultation rooms, for there they dealt with human beings and not with unconscious patients or with laboratory problems.

.... The anxious mother who is harassed by worries about her children or her husband and who has a retroverted uterus should not be accepted for operation without carefully weighing all sides of the evidence; the young man with a duodenal ulcer whose symptoms are all exaggerated by an increase of emotional strain had better be treated by any method other than operation. On the medical service the head of a family with a heart lesion, whose nights are veritable nightmares because of economic situations and hardships which will arise should his job be lost because of his lesion, needs understanding of his problems as well as digitalis; the mother who is crushed with grief over the death of a child had better not be

accepted for operation without a most careful consideration of just how much effect her grief may have on her health. These are just a few of the problems which we see almost daily in our work, but each illustrates the importance of considering the patient as an individual as well as his disease. Ill-advised medical or surgical treatment of these patients is almost sure to be fraught with disappointment to the patient and to the doctor, and is one of the causes of having groups of people lose sympathy with our efforts. . . . Little touches of human kindness, strict and constant attention to the patient's mental welfare, will do much to rob our clinics and our hospitals of their cold, institutional atmosphere, which frightens so many of our diffident patients and interferes with many a satisfactory recovery—and equally important, such a plan will not only keep many of our patients loyal to our profession but will win back to our fold many who have deserted us for the cults.

—Guthrie in N. E. J. Med.

### BIRTH REGISTRATION

(Continued from page 371)

glected registration of over 15 per cent of births in New Mexico as a whole, he adds: "It means that state and federal reports on birth statistics are incomplete and that health agencies are without an accurate guide in formulating maternal and child programs."

It means much else which the doctor and all other patriotic citizens know, not the least of which is the decided shock it gives to the intelligence and pride of New Mexico parenthood. We promote prenatal clinics where expectant mothers are guided, we insist upon certified milk for babies, establish children's bureaus, study environmental factors influencing the infant death rate, require diplomas to signify graduation, demand records of many other happenings to the individual from infancy to maturity, and neglect official registration of the most important happening in the child's existence—his birth."

Before the campaign ends December 31, 1939, it is hoped to convince every New Mexico and Arizona parent of the wisdom inherent in this enterprise.

As in any measure concerning public welfare, SOUTHWESTERN MEDICINE endorses this laudable effort of the New Mexico and Arizona Departments of Public Health. Here is the proper sphere of activity for health departments. May success come.

### BOOK NOTES

STERILITY AND IMPAIRED FERTILITY, PATHOGENESIS DIAGNOSIS AND TREATMENT, by Cedric Lane-Roberts, M.S., F.R.C.S., F.R.C.O.G., Gynaecological Surgeon, Royal Northern Hospital; Consulting Obstetric Surgeon, Queen Charlotte's Hospital; Albert Sharman, M.D., M.R.C.O.G., Assistant Surgeon, Royal Samaritan Hospital for Women, Glasgow; Kenneth Walker, F.R.C.S., Surgeon to the Genito-Urinary Department, Royal Northern Hospital, and to St. Paul's Hospital; B. P. Wiesner, D.Sc., Ph.D., F.R.S.E., Consulting Biologist, Royal Northern Hospital. With a Foreword by the Rt. Hon. Lord Horder, G.C.V.O., M.D., F.R.C.P. Publisher, Paul B. Hoeber, Inc. Price \$5.50.

Sterility and Impaired Fertility, Pathogenesis



Diagnosis and Treatment, is a very exhaustive study of this question in the human being as it is the combined result of the work of specialists in all of the fields covered by this book. It is a very complete text-book.

The first section of the book is devoted to the question of male sterility and covers the question of diagnosis of the seminal fluid and a study of the organic pathology causing sterility in the male. There is also a very interesting chapter on endocrinology in the male.

The next part of the book is devoted to a complete study of sterility in the female covering general diagnosis, endocrinology and the diagnostic tests used in the determination of sterility. There is also a chapter on the usual methods used in the surgical correction of sterility.

At the back of the book a series of nine appendices give very definite history forms and laboratory tests useful in the study of this subject.

Sterility and Impaired Fertility is a complete text book of the conditions it covers and can be used as a reference book by all men interested in this subject in the practice of medicine.—G. H. J.

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CLINICAL DIAGNOSIS BY LABORATORY METHODS: By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Division on Clinical Laboratories, Mayo Clinic, Ninth Edition, Thoroughly Revised. 841 pages with 368 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$6.00 net.

As always, this continues to be one of the better books in the field of clinical pathology. It is equally valuable to the general practitioner, specialist, and student.

Of particular significance is the revision of the section on serological diagnosis. The point that two or more tests run simultaneously on the same serum is logically presented and directions for performing five of the better known tests are given in detail. Each method is described by its original author. The following tests are listed: Kolmer, Kline, Hinton, Kahn, and Eagle. Discussion of interpretation is properly left to other sources.

Anemia classification has been revised, that of Ottenberg being used instead of the Vogel classification, which has been outmoded. The illustrations of blood cells and their origin is excellent, following the theory of Downey.

Some of the little used urine tests have been deleted and others, such as detection of sulfanilamide, have been added. A chapter on clinical chemistry contains both blood and urine methods and is improved by this grouping since reference is more easily made.

The book is thoroughly up to date and reliable in every sense. It cannot but be of great help to any physician, no matter what field holds his interest.

—D. von B.

CLINICAL LABORATORY METHODS AND DIAGNOSIS, R. B. H. Gradwohl, M.D. C. V. Mosby Co., St. Louis, 1938.

This book is a ponderous one. For ready reference there are a number of shorter books that present the material needed for daily clinical laboratory work in more concise and more readily accessible form. However, it does contain a veritable mine of information and its chief value lies in its numerous references and presentation of numerous analytical methods. The detail is tiresome at times. Much discussion on interpretation of laboratory findings might have been better left out or placed in more concise form. Many controversial matters are considered. The illustrations are on the whole very good. Those on stained blood smears are especially good.

The sections on parasitology are especially good. It is not often that the average doctor has occasion to need information on parasites, but when he does Dr. Gradwohl's book is a good reference.

A chapter on the laboratory as concerned with crime detection is something new in clinical pathology texts and should prove valuable in some cases.

A major objection to the book is that it attempts to treat too much material in a single book. In spite of this it is a very good reference work.

—D. von B.

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RECIPES AND MENUS FOR ALLERGICS; by Myra May Haas; In collaboration with Nathan Schaffer, M.D.; Menus by Cay Hillegas; Illustrations by O. Soglow; Dodd, Mead & Company. Price \$2.50.

This is a practical volume for persons who have allergy. The preface, written by Dr. Schaffer, a competent allergist, although only nineteen pages, is packed full of suggestions and helpful material for persons who have allergy.

The greater part of the book is devoted to menus and recipes, the work of Cay Hillegas—a dietitian of no mean ability, we must judge. This portion of the book is divided into eight parts: Recipes for persons who have egg allergy is found in part I; milk allergy, part II; wheat allergy, part III; egg and milk allergy, part IV; egg and wheat allergy, part V; milk and wheat allergy, part VI; egg, milk, and wheat allergy, part VII; miscellaneous allergy, part VIII.

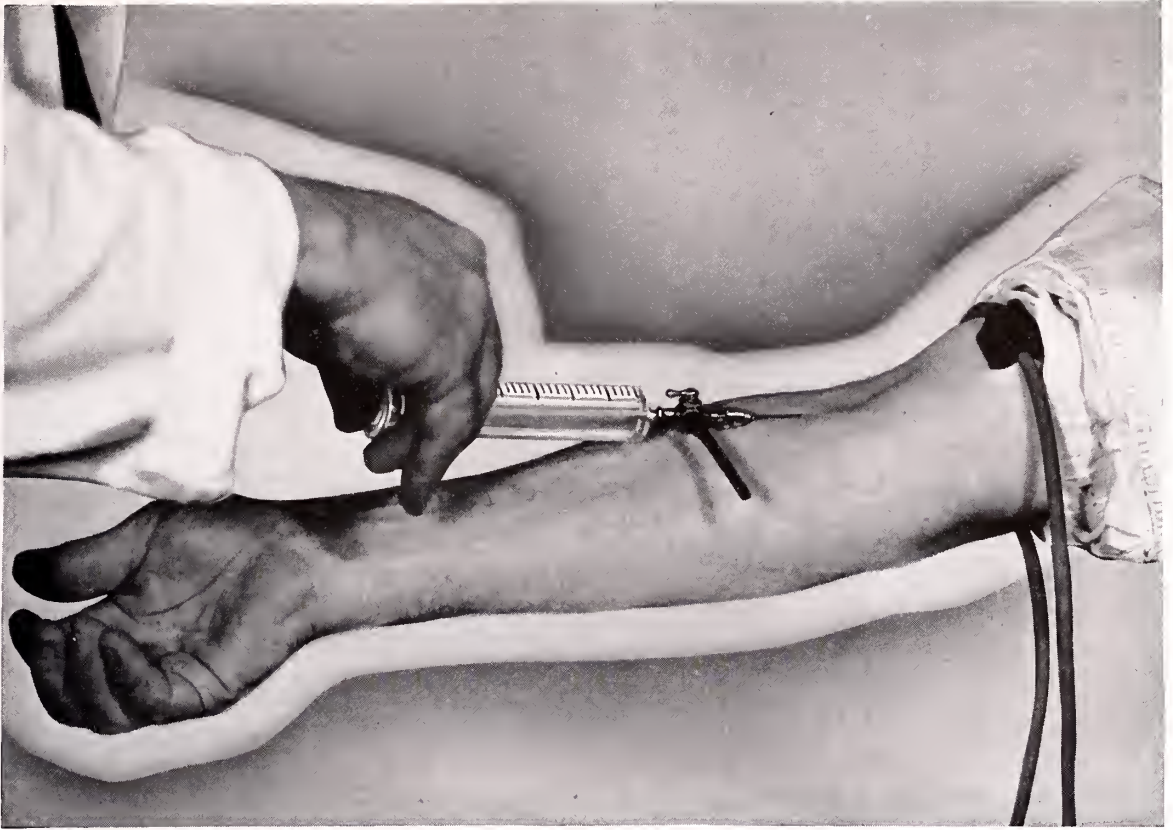
Mrs. Haas is afflicted with allergy, and has found it necessary to devote a great deal of time to the problem of feeding herself. Out of her experience this book was written—which required a great deal of work—with the help of her co-authors.

This book is safe for physicians to place in the hands of their patients, and should be exceedingly helpful.—O. H. B.

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BAPTISM OF THE INFANT AND THE FETUS: AN OUTLINE FOR THE USE OF DOCTORS AND NURSES. By the Reverend J. R. Bowen, Chaplain, St. Joseph Mercy Hospital, Dubuque, Iowa. Paper. 25 cents. Pp. 12. Dubuque: M. J. Knippel Co. 1937.

This highly interesting and informative booklet contains approved instructions for the procedure



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of baptism of the Catholic fetus or infant. The rite of infant baptism is considered highly important by Roman Catholics. It is possible for the physician to bring consolation to the grieving parents of an infant or fetus dying shortly after birth by observing the procedures set forth in this work. Every physician, Catholic or non-Catholic, doing obstetrics should acquaint himself with the knowledge contained therein.—M. P. S.

**SCLEROSING THERAPY, THE INJECTION TREATMENT OF HERNIA, HYDROCELE, VARICOSE VEINS AND HEMORRHOIDS:** Edited by Frank C. Yeomans, M.D., F.A.C.S., M.R.S.M. (London, Hon.); Professor of Proctology and Attending Surgeon, New York Polyclinic Medical School and Hospital; Fellow and Past President, American Proctologic Society; Consulting Surgeon, New York City Cancer Institute; Associate Surgeon, the New York Hospital; with 185 illustrations on 117 figures: A William Wood Book; The Williams & Wilkins Company, Baltimore; 1939; Price \$6.00.

The treatment of hernias, hydroceles, varicose veins and hemorrhoids by injecting sclerosing chemicals is being used and considered by so many physicians and even by many patients that it behooves every physician to be well up on this line of treatment; condemning the method because of prejudice and because of a vivid imagination of the possible ill-effects begets in the minds of the patients an intolerant attitude, or is apt to, toward physicians in general and especially to those physicians who condemn the procedure without plainly manifesting a keen interest and knowledge of the literature on the subject.

The authors have had a wide experience in the sclerosing treatments of the various conditions in

which the method is applicable and have drawn largely upon their own experiences as well as upon the literature which is far more extensive than the average physician who is not posted upon this treatment would imagine.

The authors have made a readable book which is utilizable as a text by those unfamiliar with this method of treatment. In other words a physician may study this book and then if he uses average intelligence and "horse sense" be competent at least to do the more simple of the conditions with a reasonable degree of safety. At any rate it would seem that an average physician with the modern training of today after studying this book should be more nearly competent to use the procedure than will he be competent to do the average surgical operation with no more training than most of them have had and who have recently read about it in a book.

The book is recommended as one which physicians should possess for ready reference.

The publishers have made a most presentable book.—O. H. B.

**TEXTBOOK OF NERVOUS DISEASES.** By Robert Bing. Translated and enlarged by Webb Haymaker, from the fifth German edition. Pp. 793. Illustrations, 207. Cloth. St. Louis: C. V. Mosby Company. 1939. Price \$10.00.

This is the first English translation of Bing's well known "Textbook of Nervous Diseases". It is a revision as well as an enlargement of the 1937 German edition. The translation retains the same

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form of thirty chapters but has added 175 pages. These include recent additions to the text and bibliography in almost every chapter.

One or more chapters are devoted to each of the following subjects: diseases of the peripheral nerves (3 chaps.); the dyskinesias (2 chaps.); muscular atrophies; degenerative diseases of the upper motor neurons; central nervous system syphilis (4 chaps.); arteriosclerosis; infectious diseases and intoxications; cerebral hemorrhage; aphasia; tumors; cerebellar disease; congenital defects (2 chaps.); combined system diseases; demyelinating disorders; spinal syndromes; endocrine glands (2 chaps.); autonomic nervous system; convulsions; headache; and the psychoneuroses (3 chaps.).

The book is not well suited as a textbook for American medical students, differing as it does in many minor (and occasionally major) respects from the common practices in this country. This is particularly true of the therapeutics. It should, however, be a valuable reference book, not only because it is representative of modern European opinion but because of its very fine exposition of certain phases of neurology. The chapters on those diseases in which the diagnosis is dependent on exact knowledge of anatomy and pathology, are excellent. For example, in the first chapter on diseases of the peripheral nerves there are forty figures and tables of topical symptoms to guide the examiner in the localization of the central lesion.

The book retains, as the translator intended, the strong imprint of the personal opinions of the author. It retains, also, the distinctly Continental flavor of dogmatic statements, even on subjects that we are more accustomed to considering controversial.

The only weak part of the text is the fifty-five page section on the psychoneurosis. Modern advances in the treatment of these disorders is almost ignored. The author's attitude is that of the traditional neurologist rather than that of a psychoneurologist. These three chapters could well be deleted altogether, leaving the book an excellent textbook of neurology.—I. M. E.

**SYNOPSIS OF PEDIATRICS.** By John Zahorsky, assisted by T. S. Zahorsky. Pp. 430. Illustrations, 153 incl. 9 color plates. Cloth. St. Louis: C. V. Mosby Company, 1939. Price \$4.50.

This handy compendium of pediatrics continues to be an excellent book. Though it necessarily treats each subject briefly and without explanation or apology for the opinions offered, it is surprisingly comprehensive. This 3rd edition differs only in minor details from the previous editions. It represents very well sound, present day, conservative pediatric opinion.—I. M. E.

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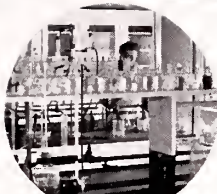
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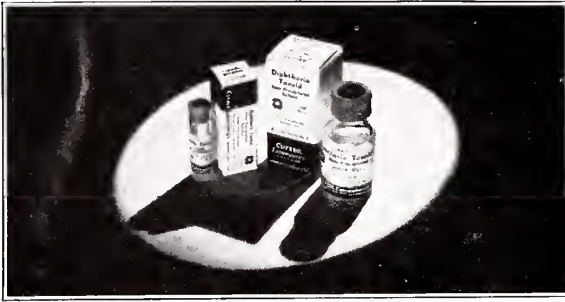


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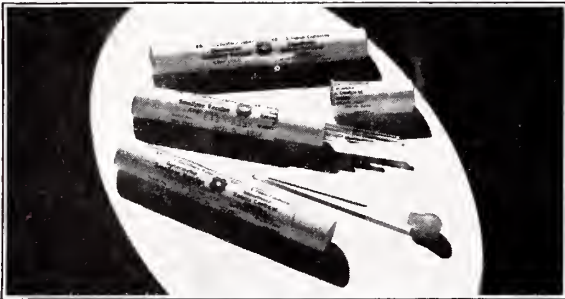
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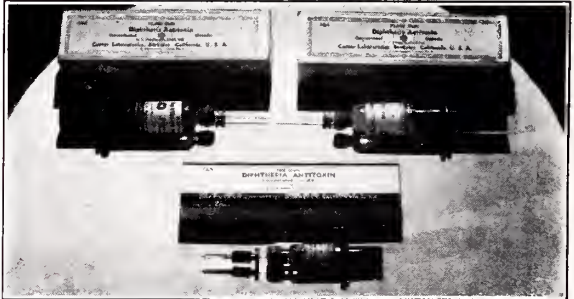
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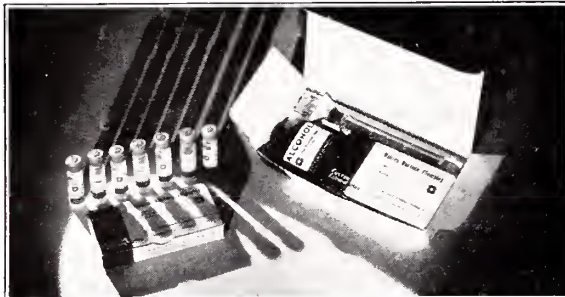
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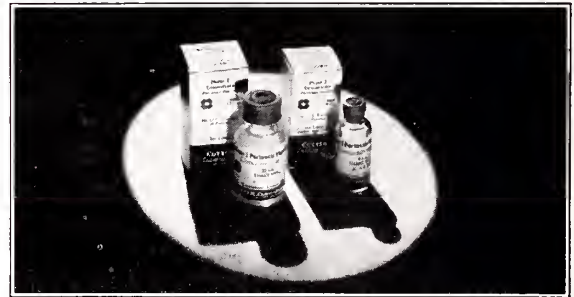
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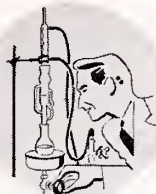


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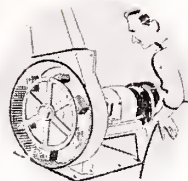
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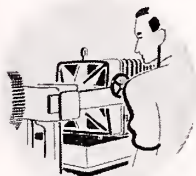
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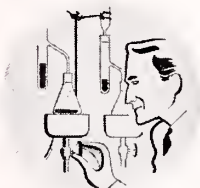
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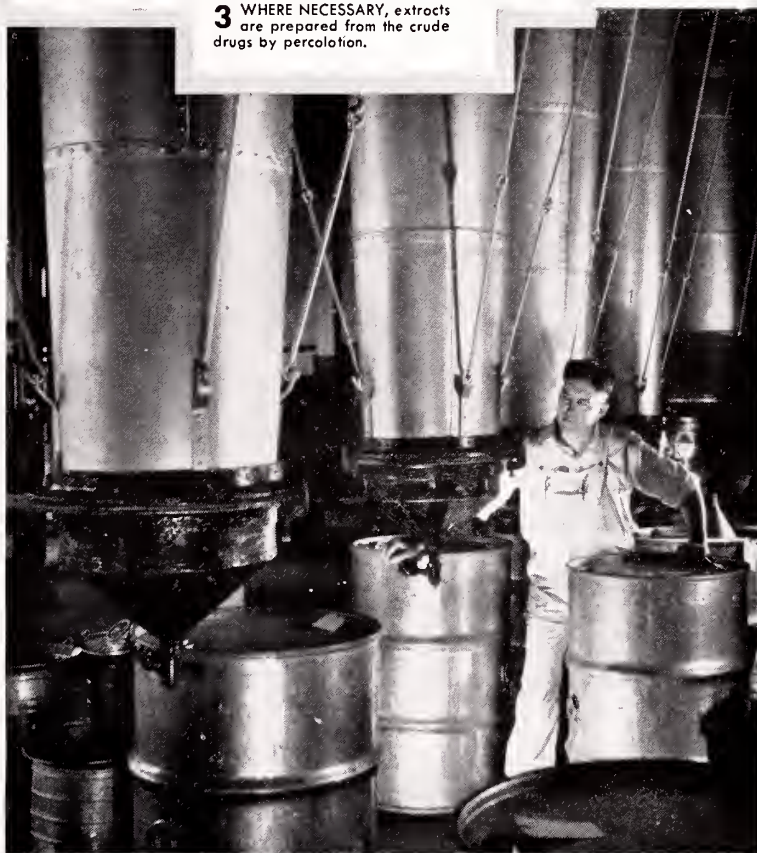


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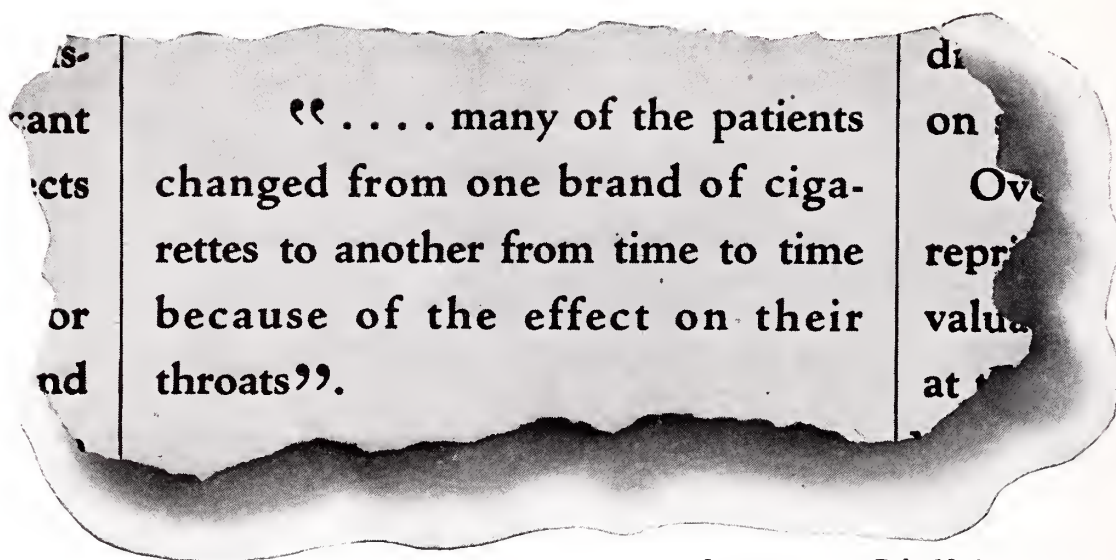


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*Laryngoscope, Feb. 1935  
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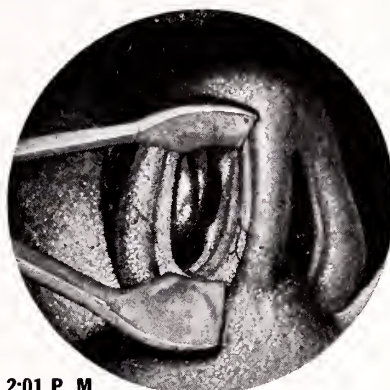
*Case History:* F. O'B. Age 23, male, white. Worker in chromic acid plant. Complained chiefly of earache and head stoppage. Observed at Nose and Throat Clinic of a Philadelphia hospital.

## EFFECTIVE IN MINUTES



1:52 P. M.

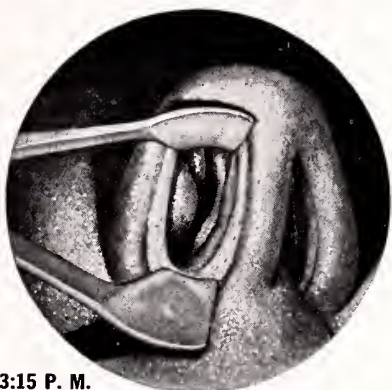
Swollen turbinates and septum. Two inhalations from 'Benedrine Inhaler.'



2:01 P. M.

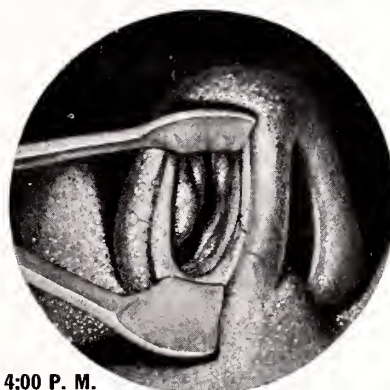
Maximum shrinkage. Inferior and middle turbinates and septum decongested.

## LASTING FOR HOURS



3:15 P. M.

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4:00 P. M.

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No. 12

## Lengthening of Life

HOWELL RANDOLPH, M. D.

Phoenix, Arizona

THE energies of the medical profession are primarily directed toward lengthening of life. Yet, while a large part of our time and effort are directed in individual cases toward this end, we infrequently take stock of the end results in toto. We are satisfied to know in a vague way that there has been a great deal of progress made which may be partially due to our efforts and we have a smug feeling as a result of that knowledge. This participation in the credit is justified only in so far as we as physicians are able to apply the complex knowledge made available by the combined efforts of the entire profession. This entails continuous effort upon our part, an ability to change with the evolutionary changes which are taking place. We must diligently follow the avenues of interest most likely to arrive at the ultimate goal of continuing the lengthening of life.

Table I  
EXPECTATION OF LIFE, YEARS (MALE)

	0	10	AGE 30	50	70
1901	48.23	50.59	34.88	20.76	9.03
1910	50.23	51.32	34.87	20.39	8.83
1920	54.05	52.82	36.47	21.37	9.09
1931	58.84	54.50	36.88	20.83	8.93

Inquiry reveals the rather surprising fact that until relatively recent times little was known of the average length of life, as statistics were exceedingly fragmentary and inaccurate. Such data as are available have led to the belief that the mean life expectancy in antiquity might rank with that of such countries as India today, i. e., between 20 and 30 years. Piersol and Bortz record that in the sixteenth century an infant had a life expectancy of 21 years. In the seventeenth century this had increased to 26 years. By the middle of the eighteenth century it was 34 years, and in the latter part of the nineteenth century it had extended upward to 40 years. Up until this time the progress had probably to do largely with a reduction in the hazards of obtaining a livelihood, and with an increasing sense of the value of human life and of individual rights. Then came the discoveries initiated by the new methods of science introduced by Pasteur. These opened up an entirely new field and progress was rapid. Life expectancy increased in the United States from about 40 in 1880 to 48.23

in 1901, to 58.84 years in 1930, and to 61.4 years in 1937.

Table II LIFE EXPECTANCY (MALE AND FEMALE)				
Age	1900-02	1933	No.	Percent
0	49.24	61.26	12.02	24.4
1	55.20	63.67	8.47	15.3
5	54.98	60.80	5.82	10.6
10	51.14	56.25	5.14	10.0
20	42.79	47.16	4.37	10.2
40	28.34	30.34	2.00	7.1
60	14.76	15.50	.74	5.0
90	2.95	3.09	.14	4.7

The fact that there is not much increase in expectancy after the age of 50 offers the challenge which I wish to emphasize. Although there are many more individuals reaching the age of 50 today, they apparently have no reason to expect to live longer than their grandfathers did. It seems obvious that most, if not almost all of the gain is directly due to reduction of infant mortality, and control of contagious diseases. This has been accomplished to a large extent, not by the medical profession as a whole, but by those men working in and through the public health departments, with the co-operation of the profession. Skill in the management of "surgical diseases" and improvement in diagnosis and treatment of the diseases of middle life must have influenced the life span to some extent. Improved nutrition and lessening of occupational hazards which have been accomplished in the past 50 years must have had their influence, but the problem is still to make it show in the lengthening of life of the average individual who is successful in reaching 50. The increase in automobile accidents cannot entirely account for the failure.

Table III  
EXPECTATION OF LIFE AT BIRTH IN THE YEAR 1930

Country	Male	Female
New Zealand	65.0	67.9
United States	60.9	64.4
Holland	61.9	63.5
Denmark	60.9	62.6
Germany	59.8	62.6
Canada	59.0	60.7
England	58.7	62.6
Scotland	56.0	59.5
Austria	54.5	58.5
India	26.9	26.6

It is true that there are more individuals reaching the age of 100 years today than formerly, and there are authentic cases on record of individuals reaching 110, or more. The 1930 census listed 3,964 persons over 100 years, and of these 2,467 were negroes. It is certain that the stated age of these individuals must be discounted. If we say



that there are one-half that number, then one person in 60,000 reached the 100-year mark. The record of Chris Jacobsen Drakenberg of Denmark has been widely quoted. He is said to have lived 146 years, to have been married at 111, and to have proposed again at 130, but was refused. Mrs. Mary L. Wood of Portland is said to have lived to 120 years. However, it is still true that the 100-year mark is not frequently passed. No revolutionary change in our knowledge has greatly affected the aging process.

Table IV  
AGE AT WHICH A SPECIFIED PROPORTION OF THE  
POPULATION WOULD BE DEAD

Percentage Dead	Age (in years)	
	1901	1933
25	24	52
50	58	68
75	74	78

### THE IMMEDIATE FUTURE

There has been little tendency for the *rate* of increase in life expectancy to decrease as yet, so an analysis of the ways in which this may be extended in the near future is of interest. A study of the distribution of deaths from specific conditions in the United States shows that from birth to 19 years influenza and pneumonia account for one-eighth of the deaths. It seems not too optimistic to predict that this figure can be reduced by half, by the use of the sulfanilamide derivatives. Accidents are responsible for one-tenth of the deaths in this age period and this figure should be capable of reduction. The degenerative diseases rank low in this age group. Two-thirds of the deaths are due to other causes, which can be greatly reduced. Improved diet and general hygiene should make inroads on mortality from gastro-intestinal disorders. Infectious diseases can be more effectively controlled.

From 20 to 39, one-fourth of the deaths result from accidents, one-sixth from tuberculosis. The death rate from the latter was 200 per 100,000 in 1900, and has been reduced to 53 per 100,000 in 1933, but there are still 70,000 deaths annually from tuberculosis. The mortality from this disease should be completely eliminated if present knowledge could be applied. Wyoming in 1934 achieved a rate of 18.5 per 100,000, and the rate in Iowa was 25 per 100,000. Accidents are important in this age group and must be reduced.

With each succeeding decade the number of cardio-renal-vascular disease deaths increases, and these seem at present to represent our irreducible mortality. No rules for lessening the degenerative lesions of blood vessels have greatly affected the condition.

The importance of these various diseases may be more clearly seen if we study the percentage of deaths they cause during various age periods. We find that at birth the chances of eventually dying of cardiovascular renal disease far exceeds all other causes, and accounts for 45% of the deaths. Only 4% will die of tuberculosis, 7.9% of accidents, and

Table V  
CHANCES PER 1,000 IN 1930

Disease	Age		
	40	50	60
C-vas-Ren	539.4	566.1	598.5
Cancer	106.5	109.3	107.1
Accidents	60.3	52.4	45.3
Respir.	69.4	67.0	65.5
Tbc.	33.0	25.3	17.5
Diabetes	16.9	17.5	17.4
Others	174.5	162.4	148.7

the same percent of pneumonia and influenza; 1.4% will die of diabetes, and 24% from all other causes. With each decade there is a gradual increase in the percent dying from cardiovascular renal disease. There is a gradual fall in the deaths from accidents, influenza and pneumonia. After an initial rise, there is a decrease in the tuberculosis mortality. Cancer deaths increase to age 50, then fall slightly. Diabetes deaths remain practically stationary. There is a marked reduction in mortality from other causes.

Where can these mortality figures be further reduced? The present mortality rate in the first year of life is about 50 per 1,000. In New Zealand, this figure has already been reduced to half that number. This, therefore, is attainable in this country. The complete eradication of tuberculosis would result in extending life 1.1 years. A 50 percent reduction in mortality from accidents would extend life 1.5 years.

Dublin has constructed a possible mortality table which should be attainable. He assumes a reduction of mortality at age 1 of 10%, and for each succeeding year 0.25% to age 21, and assumes that this total of 15% mortality reduction is possible for all succeeding ages to 74. Then his reduction was decreased 1% to 79, after which the mortality is based upon that of white females in New Zealand and the United States in 1931 and 1930, respectively. This estimate seems to follow closely the trend of the past 50 years and gives an attainable average length of life of 75 years, with one-fourth of the population living to the age of 85 years.

A second table based upon these figures shows the trends in the age population of the United States and probable changes which will take place. The estimated birth rate in 1900 was 30 per 1,000, in 1915 it was 25 per 1,000, and at the present time 16 per 1,000. In 1930 we had fewer children under age 5 than at the previous census, and there were fewer children under 5 than there were in the next age group of 5 to 9. During the next 40 years this reduction in birth rate will result in a reduction in the number of individuals between 5 and 19, with approximately the same number surviving between 20 and 44, and a very marked increase in the number living after 45. More than twice as many will live beyond 65.

Professor Irving Fisher of Yale has pioneered the study of life expectancy. He believes the estimates of Dublin very conservative and considers that an increase in length of life should be accomplished not only in age groups up to 65 but in all age

groups. He gives excellent reasons for discarding the convenient century mark as the upper limit of life span. First, the rate of increase in mortality increases up to age 60 but remains constant from there to 85, and then actually declines. Second, the same improvement in environmental factors which increase the duration of the normal life expectancy should also increase the chances of life extension for those having the potentiality to pass the century mark. He believes the mortality rates are showing a decrease in the upper age groups. The fourth reason he gives is that there are quite a few authenticated cases of people who lived 105, 110 or 120 years. Another reason is that many tissue cells are apparently potentially immortal, e. g., Woodruff reported the paramecium's passing through 8,500 generations, the equivalent of 250,000 years of human life. The culture was going as well at the end as at the beginning. Tissue cultures are kept alive through many generations by removing the poisons generated by the life process, guarding against infection and providing nutriment. Following this line of reasoning leads to the conclusion that death may be held off indefinitely by "safeguarding against bullets, poisons and germs," and that it is a matter of "having the man built well to start with and well taken care of afterward."

#### PERTINENT INVESTIGATION

Now what more recent fields of scientific investigation have succeeded in bringing new facts to bear upon the problems of aging? Endocrine gland studies have yielded much of value. Carlson says, "Castration in early adult life has little influence upon the other endocrines, and there is no premature aging either physically or mentally." However, this is not the view of most clinicians and workers in this field. Allen and others observe that the uterus, mammary glands and vagina atrophy after oophorectomy and menopause. Psychic changes certainly do take place. Albright finds that there is an increase in the gonadotropic hormone of the pituitary in castrates. The essential aging change that accompanies reduction in ovarian activities of the genital and associated tissues. Neoplastic diseases and chronic infection become more likely in periods of decreasing gonadic activity. Attempts to maintain a constant flow of potent gonadal hormone in individuals have been unsuccessful, but now that the sex hormones have been synthesized in pure form we may be entering an entirely new era in investigation. Some universally applicable form of substitution therapy offers great hope of influencing the aging process. Aging people frequently have a reduction in basal metabolic rate. Should they be given thyroid therapy to the point of bringing the rate to normal? The rate of oxidation in the body is largely dependent upon the state of the skeletal muscles, which in the aging is that of markedly reduced tone. Can we improve upon these and similar compensating mechanisms?

Synthesis and accurate definition of the vitamin substances should lead to knowledge affecting the aging of the body. No one knows what the optimum vitamin assimilation for any of the vitamins is. It has been estimated that 300 units of vitamin B may be the daily requirement and that the average daily consumption today is less than half that amount. Holman gives large doses of all vitamins, particularly vitamin C before surgical procedures. What should be the daily consumption of these substances in health? Observers report a reduction of the normal agglutinins of the body in the aged. These resistance factors may be more measurable as time goes on and the ability of the body to produce antibodies may be favorably affected.

The relation between the amount of acid in the stomach and the length of life is not known. Certainly there is a tendency toward decrease in gastric acidity in advancing years. Achlorhydria was found by Dedichen to be present in 66 percent of 99 individuals between the ages of 67 and 90, unassociated with disease. Others report similar findings, and the belief seems to be that there is accompanying this a more rapid emptying of the stomach, in spite of a decrease in motility of the gastro-intestinal tract.

At a time well within the remembrance of those present, the practice of pediatrics as a specialty was not generally recognized by physicians. At the present time it is accepted by most of the profession. Geriatrics may come to assume special aspects not well understood by the general medical men. More interest is being focused upon this subject which assumes broader aspects with the increasing age of the population.

#### SUMMARY

In summary, barring world catastrophe, lengthening of life will proceed because of avoidance of some of the infections of early life, with the attendant often unrecognized damage to organs and tissues, because of rapidly increasing understanding of endocrine function and influence, because of new important knowledge of nutrition, resistance, chemical balance, and because of improving physical conditions of life. Particularly we must have an increasing appreciation of older age psychology by the young, and an acquisition of a younger age psychology on the part of the aging.

Professional Bldg.

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# Management of the Anemias

PHILIP CORR, M.D.  
*Riverside, California*

**I**N THE last 15 years remarkable advances have been made in the treatment of the anemias. Liver therapy has been introduced and many refinements been made for its administration. A considerable amount of work has been done on various phases of treatment with iron. The indications for transfusion have been better understood. The value of diet therapy including the vitamins is gradually becoming more clear. While much remains to be done, a summary of the generally accepted ideas regarding the treatment of anemias might be attempted at this time.

In practice, when confronted with an anemia, intelligent treatment might be aided by trying to place the anemias in one of the following four etiological categories:

1. Posthemorrhagic anemias.
2. Hemolytic anemias (blood destruction).
3. Aregeneratory anemias (bone marrow depression).
4. Nutritional deficiencies.

The inadequacy and the overlapping features of the above condensed classification is appreciated. In spite of the rule that "nature abhors classification," some framework must be constructed in order to deal with this problem of the anemias. The hematologist is in addition concerned with various combinations of normocytic, macrocytic or microcytic anemias with normochromic, hyperchromic or hypochromic variations.

## POST-HEMORRHAGIC ANEMIA

Anemias with a low color index should first be suspected as being due to acute or chronic hemorrhage. Where the cause of bleeding is not obvious menorrhagia or metrorrhagia must be considered. Treatment of this type of anemia may include the use of endocrines, x-ray therapy or surgery.

The gastrointestinal tract should be considered a prime source of anemia from acute or chronic hemorrhage. If bleeding from this source is not obvious the simple benzidine test of the stools should be made, repeated if necessary, to determine whether or not blood is being lost from the gastrointestinal tract. This easily performed test will frequently give a good lead for further gastrointestinal investigation.

Massive acute gastrointestinal hemorrhage is usually from peptic ulcers. In the treatment of this condition the Meulengracht treatment should be emphasized. It consists in feeding these bleeding ulcer patients liberally with a soft diet instead of starving them. The immediate and subsequent effects of this treatment are most satisfactory.

In general, the treatment for these post-hemorrhagic anemias in addition to stopping the flow of blood, is to replace the blood volume in cases of

shock with intravenous normal saline, 5 or 10% glucose, or 6% acacia, until a blood transfusion can be done. Even without shock, if the bleeding has been severe, blood transfusions aid considerably in reducing the convalescent period of the patient. Iron therapy in large oral dosage with a generous diet, particularly with whole liver, aid most in curing this anemia. Murphy,<sup>1</sup> with practically unanimous support of hematologists, decries the use of liver extract by mouth in this condition, but he personally advocates several injections of liver extract in the first few weeks of treatment.

Blood destruction in the hemolytic anemias may be so severe as to cause such excessive breaking down of the hemoglobin that the resulting increase in bile pigment brings about a jaundice. This is present in severe infections, such as those resulting from the hemolytic streptococcus or in B. Welchii sepsis. Malaria may be responsible for it.

## HEMOLYTIC ANEMIA

Acute hemolytic anemia is infrequently seen in cases treated with heavy doses of sulfanilamide. In this instance, in spite of careful observation with frequent blood counts, the anemia develops rather suddenly. One day the patient is doing very well and the next day he may be very pale. Rarely other chemicals may be responsible for this type of anemia, notably benzol and methyl chloride.

When the history and the clinical condition does not suggest the diagnosis, a study of the anemic patient should reveal in these cases a high reticulocyte count, a high icterus index, and an indirect van den Bergh reaction.

The treatment is largely a matter of controlling the etiological factor plus transfusion if the anemia is severe. The milder cases respond to a generous diet and iron therapy.

In the rare familial chronic hemolytic anemia or chronic hemolytic jaundice, the diagnosis should be made very definitely, for splenectomy effects a cure in the typical cases but not in the atypical cases. The typical cases are characterized by a chronic low-grade jaundice with moderate splenomegaly, a marked reticulocytosis, a spherical microcytosis, an increased fragility of the red blood cells, an indirect van den Bergh and an increased icterus index. Other rare hemolytic anemias will not be discussed here.

## AREGENERATORY ANEMIA

Anemias due to bone marrow depression or aregeneratory anemias are all uncommon and include characteristically such diseases as aplastic anemia, sickle cell anemias, myelophthisic anemias and anemias secondary to heavy metal intoxications. Less characteristically aregeneratory anemias include splenic anemia (Banti's disease), and anemias due to chronic sepsis, myxedema, Addison's disease and nitrogen retention.

<sup>1</sup>Presented before the New Mexico Medical Society at Gallup, N. M., May 11-13, 1939.

In aplastic anemia both the red and white cells are markedly depressed and gradually disappear because of the complete aplasia of the hematopoietic tissue in the bone marrow. Unless a toxic cause can be found and eliminated the prognosis is bad although life may be prolonged by blood transfusions.

Sickle cell anemia is a rare, slowly fatal, hereditary anemia of unknown cause, occurring almost always in young negroes. Myelophthisic anemias are aplastic anemias resulting from a crowding out of the bone marrow by other cells such as metastatic malignant cells. Arsenic and bismuth may cause a depression of bone marrow sufficient to cause an anemia. Myxedema may be associated with an anemia simulating pernicious anemia, which is controlled by thyroid therapy. A similar situation is found in Addison's disease and the anemia is helped by administration of the adrenal cortical hormones. Anemia with low basal metabolism without clinical hypothyroidism is not aided by thyroid therapy. Chronic sepsis, such as is found in tuberculosis, and nitrogen retention such as is found in chronic glomerulonephritis may be responsible for more or less severe anemia. The treatment is largely a matter of controlling the disease and providing a generous diet.

#### NUTRITIONAL DEFICIENCY ANEMIA

The nutritional deficiency group of anemias, from the standpoint of frequency and efficacy of treatment, is by far the most important. It includes under its heading the iron deficiencies and the pernicious anemia groups.

Mention should be made here of the effects of vitamins on the anemias. Vitamin C deficiency, with resulting scurvy, may be accompanied by an anemia that is usually mild. This deficiency occurs more frequently in children. Older adults who are on a diet such as the Sippy regime may have this as a factor, particularly when it is associated with hemorrhage. Six ounces of orange juice or 100 mg. of cevitamic acid daily quickly control this condition. Vitamin B has been particularly suggested as an aid in the treatment of anemias. Except as it may aid in increasing the appetite of the patient by improving the absorption from the gastrointestinal tract, it has no proven place in anti-anemic therapy. Patients with any anemia eating a well-balanced diet get all the vitamins they need for their anemia.

Iron deficiency anemias need iron. Ordinarily only 17 to 18 mg. of iron is necessary daily, but often absorption difficulties interfere with the proper intake of iron. The diagnosis of iron deficiency is made on the basis of an anemia with a low color index with an understanding of the factors of hemorrhage, or factors leading to bone marrow depression or hemolysis. Pernicious anemia must be definitely ruled out. With a hypochromic type of anemia iron therapy is always in order.

Treatment with iron therapy consists in supply-

ing an adequate amount of iron. Hypodermic medication is rarely necessary, and because of the necessarily small dosage that can be given it is comparatively ineffective. Gastrointestinal irritation with the soluble salts is usually not marked, but it is well to begin with a smaller dosage and increase to optimal or maximum dosage.

The trend in iron therapy is toward large oral doses of the soluble iron preparations. Ferrous sulphate 5 to 10 grains three times daily is a very satisfactory way of giving iron. Iron and ammonium citrate in a 25% solution in a half glass of water or milk in doses of one to two teaspoonfuls three times daily (45 to 90 grains daily) is a favorite. Bland's Mass in 30 to 90 grains daily is commonly suggested. Murphy<sup>2</sup> states that 45 grains daily of any one of the above mentioned salts will give an optimal result from iron therapy. He is not convinced that smaller doses of ferrous sulphate are comparatively more effective. The addition of copper to the therapy is clinically unnecessary.

Arsenic and strychnine have no place in anemia therapy for any effect they may be supposed to have on the bone marrow. There are no known stimulants to the bone marrow. The best one can do is to supply necessary food or hematopoietic factors.

Transfusion may be indicated in any severe anemia, particularly preoperatively where time is an element. Either the direct or the citrated blood may be used. There is no convincing evidence that citrated blood is contraindicated in hemorrhagic cases.

A word should be said about liver therapy in hypochromic anemias. Whole liver in 240 gm. (½ lb.) daily doses is one way of treating secondary anemias. The value is chiefly due to the iron content of the liver. Liver extracts are practically valueless in hypochromic anemias. The present practice of using liver and iron capsules to correct secondary anemias is to be deprecated. As hematologists generally deprecate this liver and iron mixture, the only reason for its present popularity is that the doctors have failed to differentiate the pernicious anemia cases from iron deficiency anemia, so both liver and iron are given. If it were not for the fact that the cheap iron therapy is what is commonly needed and not the expensive liver extract therapy, this "shot-gun" mixture might more easily be condoned. Nor is the touted vitamin B content of the mixture of any definite antianemic value. If it helps at all it apparently does so through its effect on the appetite and on the absorption factor in the small intestines.

#### PERNICIOUS ANEMIA

The reason for the value of liver extract in pernicious anemia and its lack of value in hypochromic anemias is obvious when one considers the underlying pathology in the case of pernicious anemia. Castle's<sup>3</sup> work has shown that in pernicious anemia there is a lack of an intrinsic factor in the stomach which ordinarily combines with an extrinsic food



factor to form a red blood cell maturing factor, the so-called hematopoietic factor, which is utilized by the body or stored in the liver. Pernicious anemia cases in relapse cannot form this red blood cell maturing factor and therefore the cells in the bone marrow become large and hyperchromic and are with difficulty matured and released. This condition is entirely lacking in hypochromic microcytic anemias and the addition of it cannot therefore be of any value in treatment of these "secondary anemias." In pernicious anemia, however, the hematopoietic factor in the liver extract enables the red blood cells to mature normally and the anemia is corrected.

It is this fundamental difference between pernicious and other anemias that makes it necessary to diagnose pernicious anemia correctly. Not only does it help one to decide when to use liver extract and when not to, but one must counsel the pernicious anemia patient that they will always have pernicious anemia and should require continued care and treatment. Clinically the diagnosis of pernicious anemia is suspected in any middle-aged or elderly patient complaining of weakness, sore mouth or tongue, intermittent diarrhea, persistent numbness and tingling of the hands or feet and clumsy gait.

Physical examination may disclose pallor, a glossitis, hyperactive deep reflexes, a diminished vibratory or joint sense in the extremities, a spastic, atoxic gait, with perhaps a breast-band anesthesia and positive Babinskis.

Laboratory work should disclose a macrocytic, hyperchromic anemia, with a leucopenia and an achlorhydria after histamine. A confirmatory marked reticulocytosis a few days to a week after liver therapy is started is helpful.

X-ray examinations of the stomach should be made routinely to rule out cancer of the stomach which will often simulate the pernicious anemia picture clinically and by its initial response to liver extract therapy. This diagnosis should be particularly suspected when there is no leucopenia.

Treatment consists in giving adequate liver therapy. This is more cheaply and effectively given by intramuscular injections than any other way.

Obtain a liver extract of high potency (at least 10 units per c.c.) and give 30 units a week until the blood count is normal or above. Then give a maintenance dose of one unit daily. One c.c. of liver extract containing 15 units per c.c. ordinarily is enough to control the patient for a two weeks' interval or more.

A generous diet should be stressed. Temporary iron therapy may be helpful if the anemia has been severe and the blood picture has become hypochromic. Dilute hydrochloric acid may be helpful symptomatically for gastro-intestinal difficulties, but is usually not necessary. Blood transfusions are rarely necessary and should be avoided unless an emergency in the patient's clinical condition exists.

#### GENERAL COMMENT

There are other rare macrocytic anemias when liver therapy may be helpful in large doses. These conditions exist when the red-blood cell maturing factor is not absorbed from the gastrointestinal tract as is found at time in sprue and occasionally in pellagra. Liver therapy may also help in those rare cases where the liver is so badly damaged that it cannot store the hematopoietic factor. Conditions like this may occur occasionally in pregnancy, but usually routine iron therapy alone should be given during pregnancy to offset the common physiological and pathological anemia in that condition.

To summarize this matter we might say that in the good old days we had merely primary, i. e., macrocytic, hyperchromic and secondary (usually microcytic, hypochromic) anemias about which to concern ourselves. In sweeping generalities it might be said that one could keep up with the times fairly satisfactorily if one would as rigidly as possible separate the primary from the secondary types of anemia and give the former adequate liver therapy, preferably hypodermically and the latter heavy doses of iron orally, supplemented by a generous, balanced diet in both instances.

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## Physiological Biliary Flush in the Management of Biliary Tract Disease

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**B**ILIARY stasis, whether partial or complete, is probably the most common cause of indigestion. It is well known that stasis within the urinary tract, whether due to spasm of the sphincter area, atony or a mechanical block, demands release of the obstructing agent, and since infection or chemical inflammation is usually present, flush-

ing out or irrigation plays an important part as a therapeutic measure. In the genitourinary tract, irrigations are frequently and adequately used, but the physiological flush—forcing fluids to increase urinary output—is probably of greater value. That stasis similarly exists in the biliary tract has long been realized. Such terms as "sluggish liver" and "bile stasis" have been infrequently heard, and rather feeble attempts have been made to increase

the flow of bile into the duodenum. Probably the administration of bile salts has been used more empirically as an aid to digestion and relieving constipation than for actually increasing the flow of bile and relieving biliary stasis. The amount and method of giving the bile salts undoubtedly did not result in much of an increase in bile flow, certainly not sufficient to give a flushing-out effect. The procedure of Meltzer and of Lyon in administering magnesium sulphate to the duodenal mucosa by means of a tube causes relaxation of the sphincter of Oddi at the lower end of the common duct so that bile will pass easily into the duodenum. Thus when bile stasis was present, either with or without infection or inflammation, the patient has not so infrequently felt somewhat improved for varying periods of time. One could not call this a true flushing effect but rather more of a releasing phenomenon.

#### PRELIMINARY COMMENT

Our attention was first attracted to the stasis of bile during our work in visualizing the biliary tract at the operating room table by injecting an opaque medium into the common duct and immediately taking an x-ray—immediate cholangiography—and through our established rule of always injecting an opaque medium into the common duct when a T-tube or catheter was placed in the duct for drainage purposes or when a biliary fistula was present—delayed cholangiography. Not infrequently the x-ray would reveal a distended common duct with marked dilatation of the biliary radicles in the liver. At times stones, mucous plugs or blood clots were the obstructing agents; again, spasm of the lower end of the common duct—spastic biliary dyssynergia—gave rise to the obstruction with the resulting stasis of bile and dilatation of the bile ducts. Another interesting fact is that for many years surgeons have opened the common duct at a primary or secondary operation because of jaundice or chills and fever and have found no obstructing agent such as a stone but only thick, inspissated bile within the common duct. After draining the common duct by means of a T-tube the condition would clear up. It might be concluded that in such cases spasm or some small obstructing agent prevented easy egress of bile through the lower end of the common duct and that infection or inflammation followed and the bile became thick and inspissated, thus completing the vicious circle. The formation of stones is encouraged by such conditions and the presence of the small stones or thick bile probably precipitates many cases of biliary colic.

For some years, irrigation of the common duct with warm saline has been advocated in all cases where a T-tube or catheter has been placed within the duct, and those who have taken cholangiograms before the irrigation and repeated them after the irrigation have occasionally been surprised to find that the filling defect in the common duct has disappeared. I have had that occur on a number of occasions. The defect may have been a

stone, a blood clot or a collection of inspissated bile or mucous.

It seemed logical that if the flow of bile and the intraductal bile pressure could be increased, a flushing effect of the biliary ducts would be attained, provided that there was free exit at the lower end of the common duct.

Neubauer in 1925 reported that sodium dehydrocholate, the sodium salt of dehydrocholic acid, effected an increased secretion of bile in animals and human beings. In bringing about this "increased secretion of bile," the constituents of the bile secreted must be considered, and this subject has been well presented by Schmidt, Beazell, Atkinson and Ivy in a recent publication in the *American Journal of Digestive Diseases and Nutrition*. Briefly, the drugs which increase the flow of bile along with the normal or increased amounts of biliary constituents are called "choleretics." These are the conjugated bile acid preparations and Bilon and Dechacid fall in this group. Those drugs which chiefly increase the aqueous fraction of bile are hydrcholeretics, the oxidized unconjugated preparations, and to this group belong Decholin, Procholon and Ketochol. Our experiments were carried out with Decholin and Procholon principally, and since it had already been established that these drugs did increase the bile flow we were interested in determining whether there was an accompanying rise in intraductal pressure. A water manometer was attached to a T-tube in the common duct and the control level for each patient recorded. It was found that the dehydrocholic acid products (Decholin and Procholon) given by mouth in substantial doses, increased the intraductal pressure level by 25 to 75%. After three to five days the pressure usually showed a tendency to return to normal, but following several days rest from the drug, it could again be administered with the same effect of increasing intraductal pressure. The sodium salt of dehydrocholic acid given intravenously resulted in a sudden rise in intraductal pressure which, however, was sustained for only a very short time.

To effectively flush out the biliary tract, it would be necessary to relax the sphincter of Oddi, and since no one drug seems to have a constant effect on the sphincter area, under any and all circumstances, a combination of all methods of relaxing the sphincter has been used.

Atropine has long served as an antispasmodic, yet it cannot be depended upon to relax the choledochal sphincter in a very large percentage of cases; neither can it be said that it never has a relaxing effect on this muscle. Nitroglycerin has certainly held a prominent place as an antispasmodic and in our early work with cholangiography we found that it very frequently relaxed the choledochal sphincter area and permitted easy egress of the contrast medium into the duodenum. Magnesium sulphate or such concentrated fats as olive oil or pure cream, in direct contact with the duodenum and choledochal sphincter, have long been known to permit an influx of bile into the duo-



denum. With all of these factors in mind, a three-day regime has been worked out by which we have been able to prove on cholangiograms that increased bile flow and bile pressure have on numerous occasions caused foreign bodies such as stones, mucous plugs, blood clots and collections of inspissated bile to be flushed out of the common duct through the relaxed sphincter area. We have on a number of occasions identified stones in the cholangiograms and later recovered these from the stool. If the stone is too large, however, it cannot be forced through the sphincter area.

#### PRESENT METHODS

The following three-day regime has been instituted postoperatively in cases where the cholangiogram identifies a filling defect in the common duct. On the first day a 1/100 grain tablet of nitroglycerin is dissolved under the tongue three times during the day; on the second, 1/100 grain of atropine is given three times, either by mouth or hypodermically; on the third day, the nitroglycerin is repeated. Each morning the patient is given two drams or more of magnesium sulphate in warm water. Before the evening meal and at bedtime, one ounce of olive oil or pure cream is given. The common duct is gently irrigated every day through the drainage tube or fistula with warm normal saline solution, and after as much of this solution as possible is removed with the syringe and by permitting the tube to drain for five minutes, 10 to 30 cc. of warm sterile olive oil are instilled. At times, lipoiodine or lipiodol seems to exert a beneficial effect. If the patient does not complain of distress, the tube should be clamped off during the course of treatment except for one hour after each instillation of oil. To increase and maintain the rise in bile flow and intraductal pressure, three Decholin or Procholon tablets (3¾ grain) are given after each meal and at bedtime.

This treatment may be repeated after several days rest, and in our experience it has on some occasions taken several attempts before the foreign substance has been entirely dislodged. The treatment may prove rather exhausting at times, and caution must be exercised in administering it repeatedly to a weak and ill patient.

#### VALUE OF PROCEDURE

With the flushing out and removal of obstructing agents within the common duct definitely revealed by cholangiography and presented by these lantern slides, the desirability of providing a routine biliary flush postoperatively in every case of biliary tract surgery can easily be appreciated. For about two years this has been carried out and we feel sure that our percentage of unsatisfactory results in biliary tract surgery has greatly decreased. Also cases previously operated that still present symptoms referable to the biliary tract have been placed on this regime with most encouraging results. In some instances it is necessary that the patient repeat the biliary flush every month or so to prevent the onset of a biliary attack. With many satisfactory and encouraging results from this management of the postoperative phase of biliary

tract disease, the biliary flush regime has for some time constituted the medical management of biliary tract disease where the gallbladder has not been removed. If infection or inflammation is the factor, with chronic indigestion of bile tract origin, then flushing out the thick, inspissated bile, small stones, collections of mucus, etc., should prove beneficial. Of course, if the common duct is the seat of pathology, and probably it is many times secondary to the gallbladder, the improvement following a flush is easily explained. However, if the gallbladder itself is the site of the trouble, it would be necessary that more bile, and particularly a thin type of bile, should enter and leave the gallbladder through a patent cystic duct, thus affording an irrigation of the biliary tract. Much to our surprise, this has proved a valuable adjunct to the medical management of biliary tract disease.

As to contraindications to this treatment, if there is complete obstruction of the common duct, this regime must not be considered for building up of pressure within the liver could easily result in liver cell damage.

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#### DISCUSSION

*Dr. George B. Kent, Denver, Colo.:* Any procedure which will make for a better end result in cases of disease of the biliary tract is welcomed by the profession at large and especially by the surgeon. Biliary flush, as described by Dr. Best, will, no doubt, reduce the percentage of poor end results.

Other improvements and refinements in our methods of diagnosis and treatment of biliary disease will no doubt make their appearance from time to time. Drs. E. C. Hanssen and Imperatori of New York have for some years been working with a duodenoscope which they have perfected. By the use of an attached telescope they have been able to catheterize the common duct. They accomplish this by having the patient swallow a string until one end comes out of the anus. Then by tension on both ends of the string the duodenum is pulled nearer the midline, so that, with the string as a guide, a straight instrument can be passed through the stomach into the duodenum. Once the papilla is visualized, a metal tube, which is built into the instrument, is projected and manipulated into the common duct. No flexible catheter is used. I gathered this information from Dr. Henry Buchtel of Denver, who showed me the personal communication from Dr. Hanssen. Dr. Hanssen states that his work is still experimental, but he says the outlook is very encouraging.

All improved methods of diagnosis in disease of the biliary tract should be evaluated and used if they stand the test of time. Once a definite diagnosis is made, I believe that early and thorough surgery will produce the best end results. In most cases the end result is good, providing the source of infection is removed at the time of the primary operation; that is, the diseased gallbladder and stones in the ducts. After extensive infection has taken place in the liver and pancreas one must not hope for a complete cure, for too much change has already taken place in the secretory power of the liver and pancreas to effect a complete cure. Digestion cannot take place normally.

However, we must do the best we can in relieving any patient who presents himself with disease of the biliary tract. It is in those cases of chronic

hepatitis and pancreatitis, caused originally by infection of the gallbladder and ducts, that the most benefit will be obtained by increasing the bile flow and in so doing flush the biliary tract.

A word of warning should be given in regard to the direct manual irrigation of the ducts. It seems to me that irrigation with saline would be just as likely to carry infection retrograde into the liver radicals as it would to flow downward into the duodenum. The pressure would be the same on the two arms of the T-tube. Infection might be carried into the liver, causing any degree of damage up to abscess formation. There could hardly be any criticism of stimulating the bile flow by one way or another, thereby thinning the bile and flushing the ducts. The only contraindication would be complete obstruction of the common duct

due to stone or new growth, as Dr. Best has mentioned.

I know we all will benefit from Dr. Best's paper and will use his postoperative regimen following operations upon the gallbladder and ducts, but we must not forget to include the greatest and safest stimulant of bile flow—water. Plenty of fluids should be given orally, when tolerated, or parenterally when nausea or vomiting is present. The patient should be taught to form a habit of drinking from 2,000 to 3,000 c.c. of fluids daily.

One might be tempted to use the method outlined by Dr. Best as a medical procedure, but until we are able to remove stones and infection of the gallbladder and ducts by any medical regimen it is best that we advise these patients to seek surgery early in the course of the disease.

## Multiple Sclerosis

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**M**ULTIPLE sclerosis has been variously called disseminated or insular sclerosis to indicate the scattered nature of the process in the central nervous system. Most textbooks on medicine class it as a chronic disease.<sup>2,3</sup> However, Foster Kennedy in the latest edition of Cecil's Medicine<sup>1</sup> leaves out the word chronic and defines multiple sclerosis as a "diffuse, disseminated, structural disease essentially of the central nervous system, characterized by a degeneration in multiple areas, which leads to widely diversified symptoms, often of a *transient* character, involving chiefly the motor system."

Recently Putnam<sup>4</sup> has pointed out that "the textbook picture of the course of multiple sclerosis is founded on late chronic involvement, but with modern methods of diagnosis, earlier and more benign forms are recognized." He states<sup>5</sup> that "in modern practice the atypical forms appear to be more common than the "classic" ones, and the diagnosis is accordingly made with increasing frequency."

Multiple sclerosis was considered something of a curiosity even by Charcot. Most of the articles written about it in the last century dealt with 1 case, or with a small number at most. With the decline of the incidence of neurosyphilis and the progress of refinements in diagnosis it is rapidly coming to be known in many parts of the world as the commonest disease of the nervous system after epilepsy and the senile cerebral diseases. Von Hoesslin collected the records of 516 cases from the hospitals of Munich. The Multiple Sclerosis Commission of the American Neurological Association is reviewing the histories of over 500 cases. A comparison with other well known diseases is of interest: at the Boston City Hospital, in the five years from 1931 to 1935, the diagnosis of subacute bacterial endocarditis was verified in 50 cases; the diagnosis of poliomyelitis was made in 101 new cases, and the diagnosis of multiple sclerosis was made in 203 cases. Yet the natural history of

poliomyelitis is familiar even to the laity, and enormous sums are expended on its study, while even among medical men multiple sclerosis is often referred to as a "rare and mysterious" disease, which deserves no more than passing interest.

Kennedy<sup>1</sup> states that "multiple sclerosis is one of the commonest organic diseases of the nervous system, and by some observers has been regarded as even more prevalent than syphilis. Further statistics should be obtained."

The cause of the disease is unknown. Infections, thermal influences, traumatism, and intoxication by lead, arsenic and the like have been regarded as possible etiological factors. The disease has been attributed to various micro-organisms, but no substantial evidence has been presented in support of them.

Pathologically areas of degeneration occur mainly perivascular, variable in size and often sharply circumscribed. There is myelin destruction, but frequently the conducting axon is preserved and after the subsidence of the acute edematous lesion function is restored. Hence the tendency of the disease to show frequent remissions.

Charcot's classical triad of symptoms—nystagmus, scanning speech and intention tremor—are quite inconstant and not necessary for diagnosis. When they do appear the conclusion is final and definite, but even Charcot himself, 30 years after his original paper on the subject, pointed out that many cases exist in which the "triad" of symptoms are not found.

### DIAGNOSIS AND TREATMENT

Upon what can a diagnosis of multiple sclerosis be based? As has been mentioned the underlying pathology is a degenerative process affecting widely scattered areas of the central nervous system. Clinically we find a multiplicity of symptoms, defying a definitely localized lesion. Usually since the motor tracts in the cord and brain are so widespread there is involvement of the muscular system, giving some form of spasticity with increased tendon reflexes, muscular weakness, and frequently

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bladder or speech disturbance. Seldom is sensory disturbance found.

If, then, we have a patient with symptoms and signs referable to widely scattered areas in the cord and brain, with no acute infection, a tendency to remission, spasticity, weakness, and possibly mental symptoms or emotionalism, we certainly should think of multiple sclerosis. If the tests for syphilis are negative and the spinal fluid shows a paretic curve or other minor changes in cell count, or if any of the "triad" of classic signs (nystagmus, speech difficulties, or intention tremor) are present, the diagnosis would seem to be fairly well established.

The big difficulty in diagnosis is that with such a diversity of findings the disease is apt to be mistaken for some other functional or organic disease, and if one is not on the alert for such a condition it may go undiagnosed for a number of years or be missed entirely.

A recent tabulation<sup>1</sup> gives the following signs in their order of diagnostic importance: fatigue, increase of deep reflexes, nystagmus, atoxic tremor of upper extremities and head, loss of abdominal reflexes, disordered gait and station, disturbances of speech (often scanning), pallor of the optic discs on the temporal sides, uncontrolled emotionalism, remissions, transitory palsies of ocular nerves, vague sensory disorders, vesical difficulties, and mental changes.

Treatment has been varied but since the disease is characterized by remissions, any treatment may at times seem beneficial. The proof of the treatment probably should be whether or not it will prevent a relapse, not whether it will aid a remission. Since trauma, heat, cold, infections, pregnancy, over-exertion, fatigue, etc., seem to predispose to recurrences these should be avoided.

Vitamine therapy, forced spinal drainage, fever therapy, arsphenamine, typhoid vaccine, quinine, amphetamine (benzedrine), x-ray therapy and various other medications have been used with variable results. Surgical treatment, or natural subsidence of infections of various sorts (sinusitis, infected teeth, furuncles, etc.) has been followed by improvement in the patient's condition.

The Harvard Multiple Sclerosis Fund has been used recently for the purpose of systematically and critically reviewing the theories of pathogenesis of the disease and an attempt has been made to compare the development of its lesions with pathologic processes of known origin hoping thereby to obtain a better knowledge of the cause of the disease and hence some satisfactory method of treating the condition.

They have elicited the hypothesis that the origin of the disease may be due to a thrombosis of small vessels in the nervous system, and have been experimenting with the prevention of relapses by the use of certain anticoagulants such as cysteine, heparin, "germanin," and certain dyes. As yet no final results have been obtained and so the treat-

ment of multiple sclerosis remains on an empiric and experimental basis today.

### CASE REPORTS

*Case 1.* A 30-year-old male chemist was first seen by me in November, 1937, having developed incoordination of the left leg following a very slight twisting of the knee in 1930. There was gradual progression to the right hand so that in 1934 he could not properly control a pen when attempting to write. Heaviness in the right leg and stiffness in the right arm had been present for about one month and he had several times let a glass slip from his hand. Hearing was diminished in both ears, more so in the left, following an otitis-media one year previously. He was allergic to ragweed, eggs and certain chemicals. Sexual powers were greatly reduced, and he noted some decrease of bladder control.

*Examination* reveals a thin, undernourished white young male who walks with a spastic gait, quite intelligent but introspective. Temperature 97.8, pulse 68, B. P. 104/60. Examination and fluoroscopy of heart and lungs, negative. Deep tendon reflexes hyperactive, abdominal reflexes absent, slight nystagmus, slight speech difficulty. Romberg test showed considerable wavering. Sensation to light touch and pin prick present.

#### Laboratory Examination:

*Blood*—Red count, 5,120,000; hemoglobin, 90%; white count, 7,100 with 74% polyp; 24% lymph, and 2% monocytes. Sedimentation rate (Westergren), 2 mm. in one hour. Wassermann test, negative.

*Urinalysis*—Alkaline 1024, albumen and sugar negative; occasional epithelial cell; no casts nor blood cells; 1-3 pus cells; amorphous phosphates.

*Gastric Analysis*—(Ewald meal) Free HCl 37; total acidity 69; occult blood negative.

*Spinal Fluid*—No increase in pressure; clear, moderate increase in globulin; glucose 100 mgm/100 cc; chlorides 730 mgm/100 cc; Wasserman reaction (icebox fixation) negative; colloidal gold 5-4-4-3-3-2-1-0-0-0 (paretic curve).

#### Diagnosis: Multiple sclerosis.

*Treatment:* Maintain general healthy living and dietary conditions, avoid overwork, possibly try arsenic in small doses by mouth, fever therapy, typhoid vaccine intravenously or quinine by mouth.

*Course:* Patient went east shortly afterward, but I have recently been informed that he continues his duties as chemist.

*Case 2.* A 22-year-old Irishman slipped backward, bumping his back and head, in July, 1938. In September, 1938, when I first saw him, he denied any previous illness or injuries, but stated since July he had recurring periods of weakness, nervousness, difficulty in walking, speech difficulty, loss of weight (34 lbs. in 2 months) and urinary difficulty. He had been in a hospital on several occasions with improvement only to be followed by a remission and gradual progression of symptoms.

*Examination* showed generalized muscular spasticity, particularly in left leg, with considerable difficulty in walking.

*Temperature*—99.2; pulse 90; B. P. 140/90.

*Eyes*—Pupils react to light and accommodation, slight nystagmus.

*Heart, lungs and abdomen* grossly negative.

*Hands*—Tremulous and intention tremor made it quite difficult for him to write legibly.

*Tendon reflexes* active, abdominals diminished. *Babinski* and *Romberg* negative, moderate bilateral ankle clonus.

*Sensation* normal to light touch, pin prick, heat and cold.

**Laboratory Examination:**

**Blood**—Red count 5,570,000; hemoglobin 100%; white count 9,300; 68% polyp; 30% lymph; 2% monocytes. Wassermann and Kahn tests negative.

**Urinalysis**—Acid, 1.019, albumen and sugar negative, no casts nor blood cells; rare pus cell.

**Spinal Fluid**—Clear, slight increase in pressure, Queckenstedt normal, no cells, slight increase in globulin, chlorides 720 mgm/100 cc; glucose 77 mgm/100 cc.

**Wassermann** reactions negative, and *colloidal gold* showed no color change.

**X-rays**—Lumbar spine, sacro-iliac and skull negative.

**Diagnosis:** Multiple sclerosis.

**Treatment:** Bed rest with graduated exercise as seemed advisable, large doses of thiamine chloride (vitamine B<sub>1</sub>) (10 mg-3000 IU) intravenously each day.

**Course:** Became progressively worse until several months later he was bedridden. At present he continues to spend most of his time in bed although at times is able to get up and about with the aid of crutches.

**Case 3:** A 26-year-old white male whom I saw in September, 1938, because of continuing unsteadiness in gait, loss of weight, easy fatigue, impaired speech, and difficulty in urination during the past year or two. He stated that a tumor of the palate had been found and he was receiving x-ray therapy. Superficial examination revealed atoxic gait and hyperactive reflexes, and I had a feeling that this was probably a case of malignant tumor and only palliative treatment was indicated until we should see what x-ray therapy could accomplish.

In January, 1939, he returned stating that the unsteadiness was becoming worse, he was easily fatigued, couldn't gain weight, continued having urinary and bladder difficulty and occasional diplopia, although his x-ray treatments had been finished. He was anxious to know what was the trouble. Neurologically, examination at this time showed hyperactive tendon reflexes, ataxic gait, some spasticity, some incoordination on finger to nose test, moderate intention tremor, positive Romberg and Babinski, ankle clonus, absent abdominal reflexes, right lateral nystagmus, difficulty in speaking clearly.

**Laboratory Examination:**

**Blood, urine and Wassermann** negative.

**X-ray of skull** negative.

**Spinal Fluid**—Showed bloody after puncturing blood vessel and probably should have been discarded but gave marked increase in globulin, 150 red cells, no white cells, chlorides 710 mgs/100 cc; sugar 59 mgs/100 cc; Wassermann reactions negative and colloidal gold 0-0-0-1-1-1-0-0-0-0.

**Diagnosis:** Multiple sclerosis.

This was confirmed by Dr. A. C. Kingsley and later at the Stanford University Medical Clinic by

George S. Johnson, M.D., professor of neuro-psychiatry.

**Treatment:** Consisted in high vitamin diet and the avoidance of exertion. Johnson at Stanford suggested quinine by mouth. Following the A. M. A. meeting in St. Louis and the public announcement of low temperature (freezing) therapy, this patient wrote to Dr. Temple Fay at Temple University Medical School telling him that he had noted he felt much better and less stiff when he took a cold bath, and asked if freezing would help his condition. Dr. Fay answered that they had had no experience with treating multiple sclerosis with reduced temperature.

I received a letter from Dr. Fay stating that he had found definite clinical improvement in certain cases following the administration of sodium salicylate to toleration along with complete spinal drainage and reduced fluid intake. Likewise, where cultures of streptococcus viridans had been obtained from the mouth, gums or throat he had administered autogenous vaccine. He states that they have found streptococcus viridans to be the cause of thrombo-phlebitis about the cord.<sup>8</sup> This seems to fit in with the findings of the Harvard group and is the treatment being followed in this case.

He has had two spinal drainages, one on August 28 with 45 cc. of fluid being withdrawn, and one October 21 with 35 cc. of fluid. Both fluids have been examined, the first showing a cell count of 2, marked increase in globulin, negative Wassermann and no color change in colloidal gold; and the second, 1 cell per cu. mm.; marked excess globulin, negative Wassermann reaction and colloidal gold 0000123210.

**SUMMARY**

I have given a brief description of multiple sclerosis, pointed out its rather common occurrence, the difficulty in diagnosis, particularly in early cases, and the unsatisfactory nature of present methods of treatment. However, a ray of hope can be seen in the hypothesis of thrombus formation in small vessels of cord and brain, thus pointing the way toward a rational form of therapy directed against the prevention of relapses rather than aiding in a remission.

15 E. Monroe St.

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## Anesthetic Procedures for Upper Abdominal Surgery

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and

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**R**ECENT progress in anesthesia has been due to the introduction of newer agents and to improvement in anesthetic technic. As our knowledge of chemistry and physiology has increased, the technic and practical application of anesthetic pro-

cedures have improved. This has given the patient the benefit of a safer, more comfortable hospitalization, with a reduction in post-operative morbidity and mortality.

For upper abdominal surgery, the primary requisites are adequate muscular relaxation and a quiet respiration. When these can be accomplished and

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the patient returned from surgery with active reflexes, and in a semi-conscious state, the chances of post-operative pulmonary complications are greatly diminished.

The wide variety of anesthetic agents and methods now available makes it possible to select the one most suitable for each individual patient, rather than use a standard routine for all. It is no more logical to employ one routine anesthetic procedure than to use one type of operation for every case, regardless of the pathology encountered.

#### PRE-OPERATIVE PROCEDURE

With this in view, the anesthetist should visit each patient the day previous to surgery. Before seeing the patient the history, physical findings, laboratory and x-ray reports are checked. Particular attention should be paid to the hemoglobin percentage, the degree of weight loss, whether gradual or rapid, and other such factors as might influence the patient's tolerance for toxic drugs. The patient is then interviewed and a check of the heart and lungs is made. If some type of local anesthetic is contemplated, it is advisable to question him to ascertain if he has any idiosyncrasy to novocaine or other drugs that are being considered. Frequently information may be obtained by this method, which might be overlooked in the routine history taking. (If there is any question of sensitivity to local anesthetics, it is advisable to use skin tests prior to injection. Untoward results will be avoided by following this procedure.) During this interview the anesthetist may determine the proper pre-operative medication and select the type of anesthesia indicated. In making this selection, consideration must necessarily be given to the patient's condition and the contemplated surgical procedure. As a rule, patients are much more co-operative during regional procedures if they have been informed beforehand what to expect.

Sufficient pre-operative medication should be used to allay nervousness and fear. We ordinarily prescribe one of the barbituric acid group of hypnotics the night before operation. This is repeated two hours before surgery. One hour later a narcotic with scopolamine or atropine is ordered. The dosage of all drugs is adjusted to each patient. In our experience, the use of scopolamine rather than atropine has produced more complete amnesia and lessened the occurrence of nausea.

#### ANESTHETIC PROCEDURE

There are several procedures available for producing satisfactory anesthesia in upper abdominal surgery. Our preference is to use some form of regional anesthesia supplemented with cyclopropane, or occasionally with an intravenous barbiturate. The regional procedures include spinal, peridural block and abdominal field block. We have found that spinal anesthesia combined with cyclopropane gives very satisfactory results. The patient experiences less shock by this method than when either of them is used alone. If a contra-indication exists for cyclopropane, or if the con-

templated operation is a long one, we frequently use the regional anesthesia of choice in combination with an intravenous anesthetic. This is most easily accomplished by starting an intravenous injection of 5% glucose in saline solution and injecting the barbituric anesthetic into the intravenous tube near the needle. This solution should be given intermittently in amounts sufficient to produce unconsciousness and prevent any nausea that may ensue from handling of the stomach or traction on the liver. This method also has special merit when a cautery is used. For spinal block we prefer to use the 10% procaine solution made especially for spinal anesthesia rather than the novocaine crystals. The results have been more uniform and the adjustment of dosage more easily accomplished. If anesthesia is necessary beyond the time expected of novocaine, a combination of pontocain and novocain is employed in varying proportions. In this manner the desired length of anesthesia can be obtained.

Peridural anesthesia is not used as frequently as spinal and as the technic is not so well known, it may be worth going into detail regarding it. The epidural space extends from the foramen magnum to the cauda equina. Anesthetic solution injected into this space outside the dura follows along the course of the spinal nerves through the intervertebral foramina and produces anesthesia by anesthetizing the nerves outside the vertebral canal, where they are not protected by their dural coverings. This method of producing anesthesia was first suggested and used by Fidel Pages in the early 1920's. He published his results, but soon thereafter developed pneumonia and died, and his work was not carried on. In the late 1920s, Dogliotti independently developed the same technic and it is due to his efforts that the method has become more popular today.

The technic is easy to employ, but it does require care to avoid an intradural injection. The patient is placed on the right side as in doing a spinal puncture. The site of puncture varies with the extent of anesthesia required, but is usually made between the second and third lumbar vertebrae. A skin wheal is raised and a deep injection of novocain solution is made to make introduction of the larger spinal needle painless. The spinal needle is inserted until it is engaged in the intraspinal ligament. The stylet is then removed and a 10 c.c. syringe containing normal saline solution is attached to the needle. As the needle is advanced toward the spinal canal, a gentle pressure is exerted on the plunger of the syringe. As the needle is passing through the ligament, it is practically impossible to inject any fluid. When the needle enters the peridural space, the solution can be easily injected. Care must be taken to stop the forward motion of the needle at this point to avoid puncturing the dura. 10 c.c. of 2% novocaine are now injected. Following this injection, 5 minutes by the clock is allowed to elapse. At the

end of this time the patient is tested to make sure that the solution has not reached the subarachnoid space. If the dura has been punctured and signs of spinal anesthesia are in evidence, no more solution is given. If there is no evidence of intradural anesthesia, an additional 15 to 20 c.c. of 2% novocain is then administered. As soon as this is completed the patient is turned on his back and put to sleep with cyclopropane. By the time the surgical preparation is completed and the incision made, the peridural injection will be taking effect so that a very light general anesthetic will be sufficient. The relaxation obtained by this method is comparable to that obtained from an intraspinal injection. Since we have reduced the total dose of novocain used for this block to 25 or 30 c.c. we have not had any severe untoward reactions.

For those patients whose condition is considered unsafe for either a spinal or peridural injection, abdominal field block plus cyclopropane is used. The block used for upper abdominal work is accomplished by creating a wall of anesthetic solution from the xyphoid along the costal margin to the outer border of the recti muscles, thence down on each side to a point well below the umbilicus. 0.5% novocain is used for this work.

The technic for this block consists in raising a preliminary skin wheal at the xyphoid. An 80-mm. needle is then attached to the syringe and as the needle is advanced 2 to 4 c.c. is injected superficially just under the skin. The skin wheal for the next insertion of the needle is now raised from the under side. Injections are now made through the superficial fascia of the rectus muscle at about three points between these wheals, using 3 to 4 c.c. of solution for each. This procedure is carried out around the entire area mentioned above. 150 to 200 c.c. of 0.5% novocain will usually be required for this block. The amount of general anesthetic required for relaxation following this procedure is greatly reduced.

#### CYCLOPROPANE

When one of the regional anesthetic procedures is contraindicated, cyclopropane is the anesthetic agent of choice. To obtain satisfactory relaxation with this agent it is necessary to use a concentration of the gas above that ordinarily used. Cyclopropane produces anesthesia in a concentration of 15% to 20%. With concentrations above 25%, respiration is ordinarily inhibited. The depth of anesthesia can be safely increased beyond this point by using more cyclopropane while keeping the patient ventilated by making intermittent pressure on the breathing bag of the gas machine. This procedure eliminates respiratory movements on the part of the patient and thus facilitates the work of the surgeon. This maneuver must be accomplished without permitting cyanosis as anoxemia produces more damage to the heart than any direct toxic effect of the anesthetic agent. Intratracheal technic is not used as a routine in these cases but intratracheal tubes and a laryngoscope are always

ready to cope with difficulties that may arise in maintaining a free airway.

Patients that are anesthetized in this manner must be decompressed gradually from the high percentage of oxygen, and hyper-ventilated at the close of the operation by the use of CO<sub>2</sub> mixed with air or helium.

The regional procedures enumerated above combined with cyclopropane have greatly reduced the use of ether in our practice. In locations where facilities are not available to administer cyclopropane, any other general anesthetic may be used. The use of the regional block will facilitate the work of the surgeon and anesthesiologist, regardless of whether the combining agent is cyclopropane, nitrous oxide and ether, or straight ether by the open drop method.

#### POST-OPERATIVE MANAGEMENT

The post-operative management of patients following upper abdominal surgery is of prime importance. Dressings should be applied in such a manner that there will be a minimum amount of interference with free motion of the chest and diaphragm. If not contra-indicated by the type of surgery done, it is advisable to use the duodenal suction tube in order to lessen the possibility of emesis and aspiration of mucus, etc. CO<sub>2</sub> inhalations are used routinely every 20 to 30 minutes until the reflexes are active, then every 3 hours during the first 24 hours. The nurse is instructed to change the position of the patient frequently and to insist upon deep breathing. Care should be exercised in the use of opiates in order to avoid undue respiratory depression. Strict observance of the above points is an important factor in avoiding post-operative pulmonary complications.

#### AUTHOR'S CASES

In a series of 1,700 anesthetics given between September 1, 1938, and September 1, 1939, 108 were for upper abdominal procedures. Of these, 62 were for operations on the gall bladder and 46 were for other upper abdominal procedures including gastric resections, gastroenterostomies, perforated ulcers, etc. 43 patients in this series were under 50 years of age; 53 were between 50 and 69, and 12 were over 70.

14 patients in this group had spinal anesthesia alone; 50 had spinal plus inhalation; 2 had spinal plus intravenous; 2 had peridural alone, and 21 had peridural plus inhalation. One patient had abdominal field block and 7 had abdominal field block plus inhalation. 11 had inhalation without any form of regional anesthesia.

Of the 62 operations on the gall bladder there were 2 deaths, making a mortality of 3.8%. One of these deaths was due to aspiration pneumonia with asthma. The second death occurred 24 days post-operatively and was not due to anesthesia.

The complications which occurred in the entire series which might be attributed to anesthesia were 2 cases of pneumonia with 1 death. Atelec-



tasis occurred twice; pulmonary abscess caused death in 1 gastric resection on the twenty-seventh jection. One patient died of urinary suppression post-operative day. This patient had been up and around before symptoms developed. Parotitis occurred once; 3 had slight pulmonary congestion, and 1 had a diaphragmatic pleurisy. Traumatic

neuritis followed a paresthesia from a spinal in- on the third post-operative day.

In conclusion, we would like to emphasize the importance of adequate relaxation during surgery.

The use of regional with general anesthesia has proved satisfactory in our practice.

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## An Unusual Vertebral Anomaly

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A THOROUGH review of the literature on vertebral anomalies has failed to find a report on the type of anomaly to be presented here. Its resemblance to a fracture of the vertebral body is so great that its presentation will probably be of some value.

### CASE REPORT

Miss T., age 24, white, nurse, came in one afternoon complaining of a mild low back pain that came on that same morning after turning a patient over in bed. She was immediately conscious of the pain while lifting the patient, but paid very little attention to it at first and kept working. It, however, became worse during the day with continued activity.

X-ray examination showed the vertebral defect as in Fig. 1. The A. P. and oblique views were negative. Laboratory tests were all negative.

A diagnosis of simple muscle strain was made. The patient was told to wear a tight-fitting stiff corset for a few days and to limit her activity.

Her pain cleared up in four or five days and has not returned over a period of 18 months since its onset.

### DISCUSSION

The defect visible in the fifth lumbar in the first x-ray was thought to be a vertebral anomaly, because of the smooth fissure line, the absence of displacement, the history of trauma insufficiently great to fracture a vertebra, the absence of tenderness over the fifth lumbar spinous process and other minimal physical findings.

The subsequent progress of the patient seemed to confirm this opinion, as her pain cleared up completely in five days and x-rays made at the end of six weeks and at four months and eighteen months failed to show any change whatever in the appearance of the defect. The fissure line remained smooth and of the same width; no new bone formation occurred and the density of the bone on either side of the fissure line did not change and no displacement was subsequently found.

This case is unquestionably a vertebral anomaly of some nature. Just what this anomaly may be cannot be accurately determined from the x-ray plate alone, but there are three possibilities as to its probable origin that may be considered. It is possible that it could represent an ununited ring like vertebral epiphysis, a persistent venous sinusoid or a form of sclerotomic mal-development.

It is not likely, however, that this is a persistent venous sinusoid as is described by Wagner, Pendergrass and others. It is too clearly defined, the margins are too sharp and there is not the hazy indefiniteness characteristic of sinusoids. It is also improbable that this could be a mal-formation of the ring like vertebral epiphysis. Its location and the oblique position of the fissure line are different from what is most often seen with known mal-formations of the vertebral plate epiphysis.

The most likely explanation is a mal-formation occurring during the sclerotomic stage of development where the dense caudal part of one sclerotome has failed to unite with the loose cephalic part of the other sclerotoms to form the vertebral

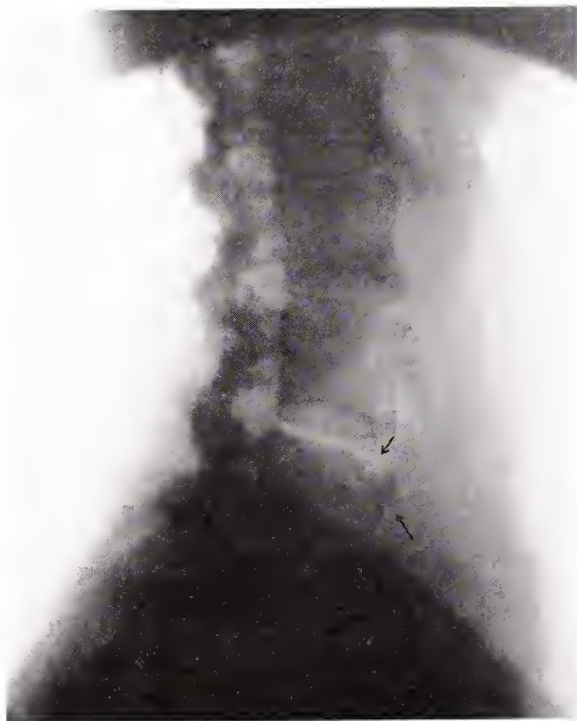


Fig. 1. Fissure defect on fifth lumbar vertebra between arrows.

Examination of the spine found slight limitation of motion in the low lumbar region. Motion exaggerated the pain, particularly raising up from a flexed position. There was tenderness of a slight degree over the iliac crests posteriorly and muscle resistance test was definitely positive and produced pain over the lumbar region of the back and along the posterior iliac crest on both sides.

body, thus leaving the clearly defined fissure line visible here in the x-ray plate.

Regardless of its origin, it can be safely assumed that this is a distinct anomaly instead of a fracture in the vertebral body.

#### CLINICAL IMPORTANCE

The recognition of this anomaly as such is important because of its close resemblance to a fracture.

It is possible to have a fracture of a vertebral body without displacement, but the x-ray picture would not be likely to present such a smooth fissure line as this, and the subsequent changes that would occur in the x-ray plate with the passage of time would, of course, make the diagnosis certain. The possibility of this anomaly existing should, therefore, be kept in mind in any case of an injury to the spine with an x-ray picture presenting findings suggestive of a fracture without displacement.

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## Severe Fractures of the Shaft of the Tibia

(Description of a Method of Reduction)

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ONE of the most common fractures is that of the shaft of the tibia and the fibula. Often oblique and comminuted, this fracture may present a difficult problem of restoration and maintenance of the bone fragments in good position. Many and varied methods of treatment are advocated, but not all are suitable for each fracture. The purpose of this paper is to discuss some commonly employed methods and to describe a method used by the author.

In an uncomplicated fracture of the shafts of the tibia and the fibula a method of treatment should attain union, restore normal alignment and length of the leg, and avoid undesirable complications such as stiffness of joints, footdrop, muscle atrophy, and infection, if the best possible result is to be obtained. While it is sometimes impossible to obtain all these desired results, yet with careful consideration and supervision by the physician and co-operation on the part of the patient, the outcome can be made highly satisfactory to both doctor and patient.

Almost all oblique, comminuted fractures of the tibial shaft show displacement; if not caused by the original trauma, displacement is produced by the muscle spasm which shortly takes place. Spasm of the gastrocnemius-soleus muscles causes overriding of the bone ends whenever they are not engaged; spasm of the quadriceps causes anterior displacement of the proximal fragment.

The non-operative methods attempt to reduce and hold the fragments in good position by strong traction on the lower leg while a cast is being ap-

plied. This traction may be applied by means of a clove hitch tied about the ankle, or by tongs, pin or wire in the lower tibia or os calcis. The reduction is normally made with the knee flexed over a bar or frame so as to relax the gastrocnemius muscle. If the bone ends can be securely locked, a tight-fitting cast extending well up into the groin will maintain the reduction.

Badly comminuted and oblique fractures with overriding usually will not stay reduced by this method. The fragments may slip despite the most constant care on the part of the patient; indeed, displacement may occur as late as four or five weeks after reduction. Not being suspected it is not discovered for a considerable period, and correction is difficult because of advanced healing and shortening of the soft tissues. For this type of fracture three methods of treatment are available: first, constant traction on the leg by means of a wire or pin, until sufficient callus has formed to assure maintenance of position in a cast; second, skeletal transfixion by pins or wires which are incorporated in the cast and so immobilize the fragments after reduction; and third, reduction and fixation at open operation.

The application of skeletal traction to the leg by means of wire or pin through the lower tibia or os calcis is of proven value. Not only overriding, but anterior-posterior and lateral-medial displacement may be corrected; pressure pads and slings can be applied. The leg is elevated on a splint to provide flexion in the knee. Frequent

(Continued on page 412)



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## TARNISHED HALOES

The smug holiness of motive with which many newspapers have crowned themselves calls to mind the ludicrous episode of an impatient Napoleon snatching the golden headpiece from a slightly hesitant Pope. When editors soundly belabor the current crop of America's demagogues, they unwittingly castigate their own behavior. For years they have tutored the subject of demagoguery in their columns. The amount of professed bleeding in the "peepul's" interest would have by now filled all known oceans. The din of tub-thumping has at times become so hideous that it must have pained even the tympani of the owners of these erudite journals. At one time most newspapers in this country had a splendid record of truthfulness and devotion to the welfare of the public. Too many now exist on a fasting diet made up of the bones of these dead glories. No public service is rendered by careless publication of part-truths regarding serious topics. And the charge of part-truth must stand as modifying any piece of writing which does present the complete facts. Newspapers in general possess great power, for good or evil, and that power should be regarded as too sacred to soil it with careless, prejudiced scribbling. When certain newspapers once more realize and accept their one-time enviable status as a public trust, then indeed will the public trust them again.

Whose interest is served by this flippant, misleading thoughtless piece?

## DOCTORS WAKING UP

The trustees of the American Medical Association

have proposed a national health program which only a few years ago would have seemed rather revolutionary.

A federal health agency, possibly with a secretary in the President's Cabinet; allotment of federal funds to states in actual need for prevention of disease and care of the sick; extension of medical care for the indigent; expansion of preventive medical services—these and other recommendations are made. But the A. M. A. trustees stress local control of administration, full use of present medical services and hospitals before launching a vast Government hospital-building program, and "continued development" of private practice.

This program, of course, is intended as a substitute for the Wagner national health bill, now pending in Congress. The doctors say that their plan could be administered "with far more efficiency," and that it would avoid what they consider the dangers of "compulsory sickness insurance, state medicine and similar technics" resulting "in a trend toward Communism or totalitarianism and away from democracy."

The Wagner bill whatever its faults or merits, does seem to have prodded the A. M. A. into a more enlightened attitude, and that is a gain. No health program can do as much good as it should unless it has the sympathy and co-operation of the medical profession. But the doctors won't defeat the Wagner bill by calling it undemocratic. They will have to prove that they have a better prescription for the ills of inadequate medical and hospital service which thus far have not been cured by the system of private practice.

A minimal effort of thinking would have shown the writer (1) that long ago these principles were advocated by the American Medical Association; (2) that the American physician's Code of Ethics has for generations meant just what these "new" statements say in shorter terms; (3) that American medicine today is the most wide-awake of any in the entire world; (4) that if the American Medical Association quietly points out the possible danger of Communistic concepts it is only following the masterful screaming of the daily press, which from 10-pound dailies to boiler-plate weeklies bellows "Dictatorship" in chorus every time any member of the Administration belches; (5) that it is poor thinking to lay the major cost of illness on the physician's back, forgetting that of the dollar spent for medical care in America the doctor (M.D.) gets not over 15 cents, the rest going to the druggists, hospitals, nurses, appliance manufacturers, drug and serum makers, patent medicine vendors, quacks, cultists, fakeries; (6) that America's regular physicians, members of the dread A. M. A., give of their time, knowledge and services to the tune of over \$1,000,000 per day to this country's needy; (7) that it is ultimately the high cost of quackery that is the largest factor in making medical care seem high in price; (8) that quackery of the most dangerous sort is carried in the advertising columns of nearly all the papers of the land, and that there is the first place to start cleaning house.

It is well known that advertising interests and patent medicine vendors long fought in unholy union to prevent the A. M. A. endorsed pure food and drugs acts passage in the Congress. So, when

better thinking is used and cleaner motives apparent, then again the people of America can justifiably place their faith in their holy protectors, the daily press.

1. El Paso Herald Post, Nov. 23, 1939.

### LATTER-DAY JENNERS

One of the lamentable short-comings of modern medicine is that so many of its practitioners leave their intern days with an up-raised eyebrow at research not fathered by some university or some ultra-scientific foundation. Too easily does the notion gain root that the medical frontiers today can be explored adequately only by the eminent Ph. D.'s in their shiny imposing laboratories. The mass of institutional publications and pronouncements has a way of drowning out the physician's memory of the debt mankind owes to such bed-side thinkers and experimenters as Jenner and Sir James Mackenzie. These two clinicians observed truly, contributed mightily—from humble bed-side outposts.

Let physicians remember always that the cloistered savants are by no means possessed of the magic key to all knowledge. Let the bed-side clinician use his powers of observation, and be eternally chary of doing all his learning out of dogmatic texts and current literature.

Right or wrong, a recent article<sup>1</sup> on the comparative epidemiology of encephalomyelitis and poliomyelitis bears the merit of reopening the once closed discussion regarding the transmission of poliomyelitis. Other thinking may be stimulated, to the end of finally solving a question that we know now is not at all answered when we blindly accept the former word of one professor—that poliomyelitis is transmitted via the upper respiratory tract. The idea of possible transmission via insect vectors is again discussed. The hypothesis is interesting, albeit not new—but needed to be called to attention again.

Perhaps this generation of medical men may yet produce from its common ranks another Jenner. Many signs so indicate.

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### PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public

health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

### RADIO BROADCASTS

"Medicine in the News" is the title of a weekly broadcast sponsored by the American Medical Association over the Blue Network of the National Broadcasting Company. The program is a dramatized outline of some significant development in medicine, lasts one-half hour. It is available at 2:30 p.m. (M.S.T.) over these Southwestern stations: KTAR, Phoenix; KVOA, Tucson; KOB, Albuquerque; KTSM, El Paso.

The program is carried by these stations as a public service, no remuneration being received by them. KTSM has broadcast the program since its beginning in November. Physicians in New Mexico and Arizona should check with their stations to see that their communities receive the benefit of these well-planned programs.

### NATIONAL PHYSICIANS' COMMITTEE

At long last the leaders of American Medicine recognize the crying need of a public relations department.<sup>1</sup> So, unofficially, certain former officers of the American Medical Association are now sponsoring what is called "The National Physicians' Committee for the Extension of Medical Service."

The stated aims of the organization are to:

1. Make possible the providing of medical service to the indigent and those in the low-income groups, and insure the most widespread distribution of the most effective methods and equipment in medicine and surgery.

2. Assume the responsibility of countering destructive propaganda by familiarizing the public with the facts in connection with the methods and the achievements of American Medicine.

These objectives have long needed sponsorship. It will be wished by many that the American Medical Association itself could have undertaken this task. May the new committee never justify the charge of reaction and Toryism being lodged against it. Let it beware of the kiss of death that certain notorious "fellow-travelers" might bestow upon it, and most physicians will accord the new committee at least tentative approval as a fair beginning.

1. Editorial, SOUTHWESTERN MEDICINE, 22:98 (Mar., 1938).



## Special Section

# Arizona State Medical Association

PRESTON T. BROWN, M.D., Associate Editor  
403 Professional Bldg., Phoenix, Arizona

### MARICOPA COUNTY MEDICAL SOCIETY OFFICERS FOR 1940

At its regular monthly meeting on Monday, December 4, the following officers were elected to serve Maricopa County Medical Society for 1940:

President .....	Dr. Elton R. Charvoz
Vice-President .....	Dr. James Lytton-Smith
Secretary-Treasurer .....	Dr. Lloyd K. Swasey
Directors .....	Drs. O. W. Thoeny, F. M. Kilgard
Censor .....	Dr. James L. Johnson
Member Library Board,	Dr. Marriner W. Merrill

### REFRESHER COURSE IN OBSTETRICS

Dr. E. D. Plass, professor of obstetrics and gynecology at State University of Iowa, gave a series of post-graduate lectures on obstetrics during the month of November in the following towns in Arizona: Kingman, Williams, Flagstaff, Winslow, Holbrook, Safford, Phoenix, Yuma, Florence and Tucson. The following were among the subjects covered in these statewide lectures: "Delayed Labor and Contracted Pelvis," "Toxemia of Late Pregnancy," "Anesthesia in Obstetrics," "Delivery and Post Partum Routine," "Bleeding in Early Pregnancy: Abortion," "Bleeding in Late Trimester and After Delivery," "Purperal Infection," and others.

These courses were supported by the Maternal and Child Health Division of the State Health Department and were arranged in co-operation with the Committee on Maternal Welfare of the State Medical Society through Dr. C. B. Warrenburg, the chairman. Previous courses on the same subject have been given by Dr. Calkins of the University of Kansas, Dr. Miller of the University of Michigan, and Dr. Davis of the University of Chicago. Letters received by the chairman of the committee, as well as the increasing attendance, have attested the growing interest of physicians in this work. The co-operation between Dr. Eason, director of Maternal and Child Health Program, and the Committee for the State Medical Association has been very gratifying to all concerned.

### APPENDECTOMY REVIEW

ST. JOSEPH'S HOSPITAL  
DR. C. C. CRAIG

In reviewing the appendectomies for St. Joseph's Hospital from January 1 to October 1, 1939, I am first going to compare statistics which appeared in Volume 113, No. 14, page 1288, J. A. M. A., the article by Horsley, Richmond, Va. He is reporting

on 972 acute appendices with 6 deaths, or a percentage of 0.617%. These were from January 1, 1931, to May 1, 1939. He includes no cases in which the appendix was not the primary cause of the operation. In this report I am reporting on appendectomies, whether primary or secondary.

In this series for 9 months, there have been 465 appendices done with a total of 5 deaths, or percentage of 1.075%. I am including all deaths in this series so that there can be no claiming of padding the report. At least 2 of these deaths were not due to the appendix. In the classification as to type of appendix I have taken the pathological report as the classifying agent, this quite often differed from the surgeon's report on the first sheet. I find that we have 238 chronic appendices, 71 sub-acute, 152 acute, 29 ruptured, and 127 that were removed incidental to some other operation. I find that one man, or one group of men (which I classified as one man), did from 90 to 100 appendectomies, 2 did from 40 to 50, 2 from 20 to 30, 9 from 10 to 20, and 26 men did from 1 to 10, giving us a total of 40 men doing a total of 465 appendectomies. I want to mention at this time that the county service had 48 appendectomies in which there was not a single death.

The highest white count in this series was 29,650, 92% polys. This case, however, was a case of acute gall bladder disease and the appendix was not at fault. The low white count was 4,900, and was also a chronic appendix secondary to another operation. The blood counts did not seem to agree with the pathological findings in case of a count of over 10,000 unless the differential count ran 75 to 80% or more. I feel in definite accord with those who have reported and written before me that too much reliance can be placed on the total blood count. This is not the fault of the laboratory but it boils down to the fact that the surgeon must not be guided entirely by the blood count; must be guided by the patient, the symptoms, history and physical, his own personal experience, and the laboratory findings. From this survey I would feel that the differential count is a greater factor than the total count, but if I tried to rely on the differential count alone, I know that it would probably cross me up the next time I relied entirely on it.

There were 3 cases of post-operative pneumonia, classified as such, and one case of pre- and post-operative pneumonia. All of these cases recovered.

Of this group there were 33 acute ruptured appendices with 2 deaths, or a percentage of 6.06%. As to treatment, I will quote Horsley.

"Since January 1, 1931, we have adopted five

## *The President's Page*

### LOOKING FORWARD

WITH the year 1940 just around the corner, the theme of my presidential address comes to mind. Much of the program suggested in the address mentioned has been put into effect—expenses of guest speakers arranged for; committees with continuous, rotating terms; post-graduate programs in the making; the establishment of an Association office with a full-time executive secretary employed; a public relations program ready to launch the first of the year, etc. For these accomplishments I take no personal credit as there has been a gradual building toward these various ends for many years past, the Council and the membership supporting me in every move to get certain projects under way, and I am truly most grateful for this wonderful co-operation.

One objective has not been reached, but we are headed in that direction, and it, too, will eventually come about. I refer to an annual visit of the president to each county society. This is something which I feel would be of mutual benefit to the county medical societies, as well as to the president, and I had hoped to inaugurate this custom during my term. However, much time would be consumed in making these trips over a state of such domain as Arizona, taxing the president heavily in time and money. Until such time as our Association reaches the point where funds will permit the president a traveling expense, this matter will have to wait as a state-wide annual project. To compensate partially for this need, a conference of presidents and secretaries of the county medical societies was held in October—the results being most gratifying as an initial movement. Pending the time when the president is able to make annual visits to the county societies, it is my suggestion that an expense account be provided, and the executive secretary be requested to attend to this important item.

For 1940, with your continued co-operation, the Council and Committees can drive on to a good record of work accomplished. Everything points in that direction as 1939 comes to a close.

With most grateful appreciation for the splendid co-operative spirit which you have extended us during the year, and on behalf of the Council, I wish for membership—individually and collectively—a Happy Christmas and that you will prosper abundantly during the New Year.

In all sincerity,

A handwritten signature in dark ink, reading "Geo. J. Smith M.D." in a cursive script.

PRESIDENT, ARIZONA STATE MEDICAL ASSOCIATION.



points for the routine treatment of all patients with acute appendicitis:

"1. Immediate operation is done as soon as the diagnosis is made, no matter what the stage of the disease.

"2. A McBurney or gridiron incision is made, and the appendix is always removed. We have not left an appendix in during that period.

"3. The tissues are handled gently, suction is used instead of sponges, and no gauze sheets or packs are placed within the peritoneal cavity.

"4. The stump of the appendix is treated simply, being merely ligated, severed and disinfected.

"5. Physiologic rest of the gastrointestinal tract is effected by limiting the oral intake and avoiding proctoclysis. In all cases of spreading peritonitis or when a perforation or abscess exists, essential water and electrolytes with some calories are given intravenously by 5% dextrose in saline or Ringer's solution. If there is distention, the stomach is decompressed by inserting a nasal tube to the stomach or duodenum, and, if the distention is great, continuous suction is applied.

"If the appendix has ruptured and there is a local abscess, the abscess is opened as gently as possible without disturbing the adhesions except just enough to gain access to the appendix. A suction apparatus withdraws the pus. In peritonitis this is also done, but under no condition is gauze packing placed or sponging with gauze used to remove pus. A gauze sponge that removed some of the pus also forces into the tissues sepsis which otherwise might not be absorbed. It may not appear elegant to see pus running over the wound and the intestine, but it is much better than to press even a small portion of it into the tissues. If a suction apparatus is not available, a catheter with a syringe attached can be used.

"The treatment of the stump of the appendix is simple. The base is ligated with stout chromic catgut but is never clamped. Clamping the base and placing the ligature in the bite of the clamp crushes the base unnecessarily, whereas the only tissue to be injured should be that within the grasp of the ligature, which makes a much narrower trauma than a clamp. The appendix is clamped a short distance from the ligature, surrounded with moist gauze and severed with the electric cautery. The stump is disinfected with pure phenol, curetted and again disinfected with pure phenol. The ligature on the stump is threaded in a needle and passed through adjacent peritoneum-covered fat. This is done to promote the absorption of the stump and to protect it from the pressure of the drainage. No sutures are placed in the cecum and no effort is made to bury the stump of the appendix.

"Burying the stump of the appendix creates a cavity in which necrotic material, the stump of the appendix and a foreign body, the ligature, are enclosed, and the purse-string suture which buries the stump cuts off some of the blood supply. This would seem to be an ideal method for creating an abscess, and as a matter of fact it apparently does. Thus, H. E. Robertson (personal communication to the authors), pathologist at the Mayo Clinic, has found that in all necropsies in cases in which the appendix has been removed incidentally during some other operation there is a pocket of pus in this cavity up to 21 days after the operation. Fortunately it usually ruptures into the intestine, but it may not always do so. Dr. Robertson says: 'For a long time I have been, in season and out of season, inveighing against the custom of burying the stump of the amputated appendix. It strikes me as wholly illogical and, worse than that, a dangerous procedure. The well known ostrich with his head in the sand hasn't very much on this custom.'

"The McBurney incision gives ample access in most cases of appendicitis and can be enlarged if necessary. It is particularly adaptable in suppurative cases because in such instances the wound is not closed. One or two cigaret drains and a soft rubber tube are inserted, and the peritoneum is lightly sutured around the drains. The rest of the wound is left open and packed with petrolatum gauze. When such wounds are sutured, suppuration of the abdominal wound often follows and there are pockets of pus. This treatment has been advocated by H. A. Gamble of Mississippi in all cases of peritonitis. It is a valuable contribution.

"The cigaret drains are left in for about 2 days, though if the temperature continues high and the pulse is rapid the drains are not disturbed until the temperature and pulse come down. Drainage is not solely mechanical, but the presence of the gauze cigaret tends to induce pouring out of lymph around it and washes out the sepsis. The petrolatum gauze is not removed for several days. The wounds usually heal satisfactorily and may be drawn together with adhesive tape.

"So far as we know there have been in this series only 6 cases of post-operative hernia in 119 drainage cases, and they have all occurred in cases in which there was rather extensive, long-draining sepsis.

"Unless all these five points are followed, it would doubtless be unwise to adopt some of them, such as the removal of the appendix in every case and immediate operation. Some of these five points, such as the McBurney incision, immediate operation and the simple treatment of the stump of the appendix, have been used by us for many years before 1931, but it is only since that time that they have been combined with two other extremely important points; that is, giving physiologic rest by supplying fluids intravenously, and the use of suction for removing pus instead of sponging or placing gauze packs in the abdomen.

"We seldom encounter paralytic ileus or mechanical obstruction. When distention does occur we use the nasal tube with suction, phlebotomy and an oxygen tent with high concentration of oxygen. The benefit of the use of sulfanilamide in appendicular abscess or in spreading peritonitis from appendicitis has not been definitely determined. Primary or hematogenous peritonitis is frequently from streptococci, and here sulfanilamide is extremely helpful." \* \* \*

In the charts that I reviewed I did not specifically look for the fact of whether or not the appendix was removed in all ruptured cases, but it was my impression that the appendix was removed in every case except three. The method of treatment of the appendiceal stump seemed to be about half of the men cut and dropped, and the other half inversion of the stump. I have not checked the post-operative on these cases and I do not know whether or not sulfanilamide was used on any of these cases. However, reports have been made of its having definite therapeutic advantages in acute ruptured appendicitis cases.

*Case No. 49111.* Entered hospital 8-19-39, died 8-28-39. Female patient, colored age 33, chills and spiking fever 2½ weeks. Menstruation normal. History sketchy on account of poor condition of patient.

*Physical Examination:* B. P. 80/40. Colored female, asthenic build, lying in bed, somewhat restless, having occasional emesis, appears quite ill and drowsy, does not respond very well, is quite dehydrated, skin hot and dry.

**Heart:** Rapid, good quality, regular, no thrills or murmurs. Pulse 144, wiry.

**Abdomen:** Flat, no scars, some tenderness on depression in gall bladder region, also on slight pressure, but indefinite over tubia-ovarian regions, no rigidity or muscle spasm.

**Vaginal Examination:** Reveals a mass on left side of uterus, somewhat continuous with uterus, large and tender. Right side seems normal. Apparently a left ovarian abscess.

**Operation:** Showed a large boggy mass in pelvis which was difficult to deliver. There were dense adhesions between the omentum, bowels and the mass. The adhesions were freed and the mass was delivered. Right and left ovaries were markedly enlarged with a dense capsule uterus enlarged and adherent. Right ovarian cyst punctured accidentally, colon smelling purulent materially escaped.

**Operation:** Supravaginal, sub total hysterectomy. Bilateral salpingo-oophorectomy appendectomy, appendectomy incidental and secondary to main surgery. Patient died of acute renal failure, massive systemic infection resulting from pelvic abscess. Patient expired 5 days following surgery.

This is one case that should not be classified as an appendix death.

**Case No. 49331.** Five months old female infant, entered hospital 9-17-39 with intussusception at ileocecal junction. Essentially negative history except nausea for 24 hours previous to admission and bloody stools for 18 hours previous to admission.

**Physical:** Negative except slight distention of abdomen, indefinite mass in McBurney's area. Abdomen very tense and rigid.

**Surgery** was performed 6 hours after entry and after consultation and a intussusception involving the ileocecal junction of the appendicial area was reduced. Appendix was removed incidental to operation and the pathological report showed acute appendicitis, but the child died probably as a result of toxic material in the intestine from the obstruction as the temperature continued to rise steadily from the time of entry until death 18 hours following entry and 12 hours after surgery.

This is not a true appendix death.

**The third case** was No. 28101. White male, 29 years of age, with acute gangrenous appendix, who in 1933 had had a toxic adenoma of the thyroid removed. Entered the hospital 2-9-39, had symptoms for 8 hours previous to entry; an acute gangrenous appendix was removed. Patient had 2 good days following surgery although his temperature began to go up the day following surgery to 101 degrees. Sputum typing was positive with type 6. Pulse 110, but good. On the 2-11-39 general condition better. On the 12th, or 3rd post-operative day, patient had a general myocardial and periphero-vascular failure and died, probably as a result of the old myocarditis from his thyroid.

The other 2 cases of death will be reviewed by Dr. Cohen and Dr. Paul Palmer.

If the 2 cases, one of pelvic abscess and the other intussusception, are withdrawn as appendicial deaths, the percentage as corrected is 0.64%, and if the case of myocardio failure was not counted, it leaves a corrected percentage of 0.43%. However, I feel that the case of myocardio failure must be included because his acute appendix made it necessary for him to be operated in spite of the fact that it was probably known in advance that his myocardium was weak, so that I feel our corrected percentage should be 0.64%.

I feel that great stress must be laid on the fact that here were 33 cases of ruptured appendicitis

with only 2 deaths, a percentage of 6.06%. This may be compared with a report on peritonitis by Thew Wright, et al, in the September 30, 1939, J. A. M. A., page 1285, in which he states that the mortality rate in Buffalo hospitals in 1935 was 45.4%, and his report bringing that up to date from 1935 to 1939 was a mortality rate of 11.7%. In this small series our percentage mortality is definitely under their mortality.

The cases of ruptured appendicitis with peritonitis, or abscess, required the greatest skill of the surgeon.

In summary, I would say that we have no need to be ashamed of this record in comparison with any hospital any place. However, it is only by eternal vigilance that a record may be kept to such a high standard.

	Acute	Acute & Ruptured	Sub-Acute	Chronic	Secondary	Total
Number	152	33	71	238	127	465
Deaths	1	2			2	5
Percentage	.65%	6.06%			1.57%	1.075% corrected mortality 0.64%

### PROCEEDINGS OF EL PASO COUNTY TUMOR CLINIC

October 10, 1939

EL PASO CITY-COUNTY HOSPITAL

Present: Doctors E. K. Armistead, Bennett, Cathcart, Gallagher, Green, Newman, Rennick, Safford, Snidow, Waite, Webb, and Doctors Crouch, Goodloe, Powell, Riba and Sullivan of the intern staff.

Dr. J. W. Cathcart presided.

**Case 1.** Dr. Crouch presented an American man aged 74 with a tumor mass the size of a lemon in the right submandibular region of 20 years duration. Diagnosis: Branchial cyst. Recommendation: Dissection of tumor.

**Case 2.** Presented by Dr. Crouch. A Mexican boy aged 11 years presented several dense masses in the mid-abdomen, one protruding to the left of the umbilicus. Two diagnoses were considered: hypernephroma and tuberculous adenitis. The skin tuberculin test, 1:500, was negative. Retrograde pyelogram and more complete study of urinary function were recommended. In view of NPN of 150 surgery not recommended at present.

**Case 3.** Presented by Dr. Goodloe. A Mexican girl aged 13 years presented adenopathy of 3 months duration in the axillae, groins and perirectal region. The glands were discrete. Tuberculosis was present in both lungs. An axillary gland was removed for biopsy. Diagnosis: Tuberculous adenopathy. Recommendation: General care for tuberculosis.

**Case 4.** Presented by Dr. Powell. This patient, a 4-year-old Mexican boy, developed a mass in the lower abdomen 4 months ago, which has progres-



sively enlarged until the abdomen is very large and tense. The mass is nodular, and palpable on the right to almost the midline posteriorly. Diagnosis: Malignancy of right kidney. Recommendation: Palliative treatment. Too extensive for surgery.

### SEVERE FRACTURES OF THE SHAFT OF THE TIBIA

(Continued from page 405)

x-rays are necessary to determine progress, because it is possible by too much pull to separate the fragments, a situation favorable to non-union. Such a patient is treated in a hospital where the frequent observation, necessary adjustment, and x-rays are available. The time period may be as long as six or seven weeks before a cast can be applied with safety.

The advocates of skeletal traction, and there are many, tend to think that the insertion of wires and pins into the bone is without risk if done under strict asepsis and careful sterile technique. It has been the author's experience to treat a large number of fractures with skeletal traction and to observe many others treated by capable surgeons. While statistics cannot be quoted at this time, the fact remains that a not-too-small number of infections occurred about the wires or pins; these infections were of all degrees of severity—from superficial skin infections to deeper infections that destroyed the bone locally, or even caused fatal septicemia. The insertion of pin or wire must be carried out with just as careful technique and consideration of tissues as a major operation.

During the past five years a variety of traction machines have been developed to reduce fractures. Pins or wires are passed through the proximal and distal parts of the tibia well away from the fracture site, and various forces are applied through these by adjusting the screw traction machine. With a badly displaced fracture, a good reduction may require considerable time, because repeated fluoroscopic or x-ray examinations, followed by corrective adjustments, may be necessary. The same danger of separation of fragments by too great a force exists, because great traction can be obtained by the machine. When the cast is applied about the pins, the fracture is securely fixed and the danger of slipping is eliminated. The patient can be allowed up with crutches at an early date, thus reducing hospitalization greatly, and enabling elderly patients to be gotten out of bed.

The operative reduction of fractures of the shaft of the tibia does not seem to be popular, if one can judge from textbooks and current literature. Perhaps the fad for applying metal plates and wires to fractures is responsible for this attitude; so many severe infections were associated, with damaging results, that the pendulum has swung well toward non-operative treatment. However, in carefully selected cases, with proper preparation and careful technique, the operative correction of fractures has much to offer. An exact reduction is

possible; interposed periosteum, bone fragments, and soft tissue can be removed, thus eliminating important causes of non-union. And good fixation can be obtained without the use of metal plates, screws or wire. In this way union can be obtained in about three months, while other methods may achieve weight bearing only after six or more months—an important factor to the patient who must work for a living. Hospitalization is reduced considerably. In these days, a good x-ray result is important, as so many fracture cases form the basis of litigation in the courts; the layman often judges the result by the x-ray picture.

The author does not favor those methods in which beaded wires are inserted through the fracture site and left projecting through the skin; or the similar insertion of metal screws. These are attempts to immobilize the bone fragments by temporary metal fixation through the traumatized soft tissues. This would seem to open the door to infection through the most vulnerable tissues. Sometimes the removal of the metal piece requires re-opening of the wound under anesthesia. And one is not certain that the fragments will not be displaced following removal of the fixation device.

### AUTHOR'S METHOD

A method for reducing and holding oblique, comminuted fractures of the tibia-fibula, which is not generally described, has been used by the author. The patient is placed on a fracture table, so that the pelvis is fixed. Under anesthesia, with careful preparation of the skin and full asepsis, a wire is inserted into the tibia well away from the fracture site and through normal tissues; the usual site is the anterior tibial tubercle. Another wire is inserted into the os calcis. A clove hitch is applied about the ankle and strong traction made. A brief fluoroscopic examination in both anterior-posterior and lateral planes is made; if further correction is necessary, this is done by manipulation, the application of slings, or by more traction. In almost every recent case it is possible to obtain a good reduction. A tight-fitting cast is applied from toes to groin, with reinforcement about the wires. When the cast is quite hard, the traction is released, the clove hitch removed, and the wires cut flush; the cast is repaired. The patient remains in bed for a few days; an x-ray is taken to show the position of the fragments in the cast. If there is no contraindication, the patient may be up on crutches in a few days.

By this method, good reductions have been obtained and maintained in about 300 fractures treated or observed by the author. The procedure itself does not require a long anesthetic; the usual stay in the hospital after reduction is for a few days. The patient may start walking with crutches, thus permitting exercise of the muscles, and tending to avoid to a large extent the stiffness of joints so often seen. In the elderly patient recumbency is not necessary, and the danger of hypostatic pulmonary congestion is avoided. The possibility of

separation of fragments by excessive traction is practically eliminated. There are no complicated machines to purchase.

Where a choice of procedure is available, the treatment of any bad fracture requires evaluation not only of the condition of the bone and soft tissues, but of the patient as an individual—his general physical condition, his mental outlook, and his financial background.

First National Bank Bldg.

## COMMUNICATIONS

Sir:

I am writing you regarding a man who is running around through the country buying glasses, especially from oculists, usually giving a check to the amount of \$30.00. This man tries to simulate a farmer and he usually has a notation on the check for corn, cows, hogs, etc. The name on the check to him is no doubt forged, and there is no doubt his indorsement on the back of the check is forged. The man is about 5 feet 9 or 10 inches tall, weighs about 155 pounds, light sandy hair, blue eyes, smooth shaven with a ruddy complexion.

Should this man come into your office making an attempt to cash such a check as the above description, unless proven to be absolutely authentic, please notify the Sheriff of Nodaway County, Maryville, Mo., or the Sheriff of Grundy County, Trenton, Mo.

He usually signs his name on the back of the check in a very rough but plainly legible hand, and he usually wishes the difference between the amount of the check and the price of the glasses in cash, but does not call for the glasses. Should he sign his name and such a check be presented to you, please have the sheriff intercept him.

Should you have any information regarding a man of his description passing checks of the above description, please inform the sheriffs above named, Dr. R. C. Pearson, Maryville, Mo., or myself.

Thanking you, I am,

Very truly yours,  
HERBERT C. KIMBERLIN, M. D.

## NEWS

### General

The officers of the United States Chapter of the International College of Surgeons invite all physicians and surgeons in good standing to their Fourth Assembly, to be held in Venice, Fla., February 11-14, 1940. There is no registration fee.

For general information please address Dr. Fred H. Albee, chairman, 57 West 57th Street, New York City. For information about the presentation of

scientific papers or exhibits, query Dr. Charles H. Arnold, secretary of the Scientific Assembly, Terminal Building, Lincoln, Neb.

Dr. Frank R. Spencer, Boulder, Colo., was chosen president-elect of the American Academy of Ophthalmology and Otolaryngology at the annual session in Chicago October 8-13, 1939. He will succeed Dr. Frank E. Brawley, Chicago, when the latter becomes president of the Academy January 1. Dr. Spencer will become president January 1, 1941.

The Academy also decided to act as sponsor for a proposed Pan-American congress of ophthalmology and otolaryngology. South American physicians attending the meeting in Chicago will arrange for the attendance of delegates from their respective countries to such a congress to be held in connection with the next meeting of the Academy, it was said.

Other officers elected were Drs. Arthur W. Proetz, St. Louis, first vice-president; Joseph F. Duane, Peoria, Ill., second vice-president, and Charles T. Porter, Boston, third vice-president; Secord H. Large, Cleveland, comptroller, and William P. Wherry, Omaha, Neb., executive secretary, re-elected.

### El Paso

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, November 7, 1939, at 12:10 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

Regional Ileitis ..... Dr. John Murphy  
Discussion ..... Dr. Hardy and Dr. Gorman

A regular meeting of the Tumor Clinic was held Tuesday, November 14, 1939, at City-County Hospital, at 1 p. m. The program was as follows: 1. Hodgkin's disease. 2. Basal-cell of carcinoma of scalp. 3. Breast tumor. 4. Lymphadenitis (generalized). 5. Tumor of right hand.

The regular dinner and staff meeting of the Southwestern General Hospital was held Thursday, November 16, 1939, at 6:30 p. m. in the hospital auditorium. The program was as follows: Symposium on Chronic Gastritis and Gastroscopy. 1. Hypertrophic Gastritis, case report, Dr. E. J. Cummins. 2. Atrophic Gastritis, case report, Dr. W. W. Waite. Discussion and slides, Dr. N. Giere.

A regular meeting of the El Paso County Medical Society was held November 27, 1939, in the tea room of Hotel Cortez, at 8:00 p. m. The scientific program was as follows: "Tuberculosis Control," Dr. James W. Laws. "Oral Surgery—(a) Removal of Cysts, (b) Splints for Fractured Jaw," O. J. Shaffer, D.D.S.

Dr. Herbert E. Stevenson, age 68, died November 2, 1939, in his home in El Paso after several months' illness.

Dr. Stevenson graduated from Rush Medical Col-



lege, Chicago, in 1899. Shortly thereafter he returned to El Paso, where he began the private practice of medicine. Dr. Stevenson's first war service occurred before he had finished his schooling. While still a student at Rush he enlisted for the Spanish-American War. Dr. Stevenson also saw service along the Mexican border as a major in the Texas National Guard in 1916, when General Pershing's Punitive Expedition was in Mexico hunting Villa. During the World War, Dr. Stevenson was the commanding colonel of the 111th Ammunition Train, 36th Division.

Except for his periods of military service, Dr. Stevenson devoted his time after graduation from college exclusively to his medical practice in El Paso. In later years he was in partnership with his son.

Dr. Stevenson was a member in good standing of the El Paso County Medical Society, the Southwestern Medical Association, the Texas State Medical Association, and the American Medical Association.

Survivors include the widow, Mrs. Florence Vilas Stevenson; a daughter, Mrs. F. W. Warren, Jr.; a son, Dr. Walter H. Stevenson, all of El Paso.

A regular meeting of the Tumor Clinic was held Tuesday, November 28, 1939, at 1:00 p. m., at City-County Hospital. The program was as follows: 1. Pituitary tumor. 2. Epithelioma of scalp. 3. Ovarian tumor.

## MISCELLANY

### GHOULISH

Few physicians rise to the heavenly realms above if we are to believe the inscription on a tombstone at Hoosick Falls, N. Y., which was discovered not long ago by Dr. Edward F. Timmins, of South Boston. This rather saddening assertion, if true, is the final line, the sting in the tail, as it were, of a story of the old-time custom of "body-snatching," or "resurrecting," as practiced years ago.

The beneficent side of the custom was that the very bodies of those who had succumbed to the Grim Reaper were used in the medical schools to train the young doctors to defeat him in other battles, surely a poetic and priceless revenge that put a nick in his sickle. But the loving relatives refused to see it in that light, and resorted to the courts, and sometimes even to mob violence.

In this case the parents tried to get even by "telling the world" in bitter language graven in stone. The grave "is in a prominent location mighty near the entrance gate of the cemetery," writes Dr. Timmins, and can easily be found by any interested members of the profession who may at any time be in the vicinity of Hoosick Falls, which is in the northern Rensselaer County near the Vermont border. Dr. Timmins was so intrigued that he snapped a picture of it. The inscription reads:

### RUTH SPRAGUE.

dau. of Gibson  
& Elizabeth Sprague,  
died Jan. 11, 1846; aged  
9 years 4 mo's & 3 days.

She was stolen from the grave  
by Roderick R. Clow & dissected  
at Dr. P. M. Armstrong's office  
in Hoosick N. Y. from which place  
her mutilated remains were ob-  
tained & deposited here.

Her body dissected by fiendish Men  
Her bones anatomised,  
Her soul we trust has risen to God,  
Where few Physicians rise.

"We hope that there is less truth than poetry in the last line," remarks Dr. Timmins, in the *New England Journal of Medicine*, to which he sent the photograph and description.

—N. Y. State J. M.

### NEXT?

A news dispatch from San Francisco dated July 10 quotes U. S. Solicitor General Robert H. Jackson as saying to the American Bar Association convention that lawyers must arrange a cut-rate service for wage earners or risk governmental control of their profession. "Our bar," Mr. Jackson is quoted as saying, "cannot claim to be discharging its full duty to society by rendering service that is out of reach of an increasing proportion of our people." He is reported as declaring that the high cost of legal services might cause the government to intervene, saying that "something like this has happened to the medical profession."

Mr. Jackson said that the very poor get legal services through public agencies and that the well-to-do can hire good lawyers; "but there are millions of people who belong to neither the well-to-do nor the very poor. Their scale of earning will not let them pay so much for legal services as the modern lawyer charges.

"Their need is not a charity agency but a low-cost legal service.

"I have grave doubts that society will continue to support idle lawyers (on the WPA) and at the same time go without their service once it wakes up to what it is doing." He declared that the American Bar Association could "if its professional organization were strong enough and so willed, organize within the profession itself privately managed, but self-sustaining, low-cost, high-volume legal services.

"In default of our attention, this problem will be likely to be forced upon the government."

Such utterances have a strangely familiar ring to the physician. Needless to say, they occasion no surprise, because it was clear to many physicians that "something like this" would confront other professions.

Next?

—Med. Ann., D. of C.

## RECKLESS SURGERY?

There are Aunty Dolefuls in every community who love to shudder as they pass a hospital and let drop mysterious hints of the unnecessary "cutting" that goes on behind its doors. A close examination of the surgical statistics of any important hospital dissipates such ideas, observes the *New York Medical Week*.

In one city hospital alone, 117 patients who were admitted last year with surgical diseases were treated nonoperatively when follow-up studies failed to confirm the diagnosis. Another 68 patients with surgical conditions were treated conservatively in the hope of effecting cures without operation. These are just one year's figures in one institution. Undoubtedly many other hospitals can produce similar statistics.

Doctors do not operate just for fun or fees. Even if a few were inclined to do so, they would be restrained by the fact that almost all hospitals require pathologic examination of tissue removed at operation. Staff conferences are quick to inquire into the activities of a surgeon with too many normal specimens on his record.

It would be interesting to assemble the surgical statistics of a group of hospitals and compare the percentages of nonsurgical cases admitted with surgical diagnoses and surgical conditions treated without operative intervention. Comparative statistics of this type might help to improve admission diagnoses and increase the number of surgical conditions treated successfully by nonoperative methods.

—N. Y. St. J. M.

## MALE SEX HORMONE

It may be interesting to review from the literature the reported observations in some two hundred cases following the use of testosterone propionate:

1. Increased libido.
2. Increase in vitality and a great lessening of the fatigue syndrome.
3. Increase in the size of the phallus, scrotum and seminal vesicles within the limits of the normal variation.
4. Increase of hair on the pubis, axillae, extremities and beard development.
5. Lower voice in cases where the voice was high-pitched and effeminate.
6. Definite psychological changes. Patients become less bashful, develop an optimistic outlook with increased self confidence and other masculine traits.
7. A gain in weight in almost all reports. Some cases reported as much as from thirty to forty pounds gain in from six months to a year. This occurred especially in the underweight patient with eunuchoid type of hypogonadism.
8. Definite changes in the skin. The skin became oily, there was an increase in sebaceous secretion and many clinicians are reporting the development of acne vulgaris. This observation may be valuable in the future in explaining the de-

velopment of acne near the ages of puberty in boys and girls.

—J. Missouri M. A.

## SULFANILAMIDE

*Diseases in which sulfanilamide has a proved value:*

1. Streptococcic infections.
2. Meningococcic infections.
3. Gonococcic infections.
4. Urinary tract infections due to *B. coli*, *B. influenzae*, *B. proteus*, *Staphylococcus aureus*.
5. Pneumococcic meningitis.
6. Experimental malaria.

*Diseases in which sulfanilamide is of suggestive value (experience too limited or results not conclusive):*

1. Undulant fever.
2. Pylephlebitis suppurativa.
3. Trachoma.
4. Lymphogranuloma inguinale.
5. Chancroid.
6. Actinomycosis.
7. Typhoid fever and paratyphoid fever.

*Diseases in which sulfanilamide is ineffective:*

1. Subacute bacterial endocarditis.
2. Staphylococcic infections.
3. Rheumatic fever.
4. Influencing the rash of scarlet fever.
5. Preventing a recrudescence of rheumatic fever following hemolytic streptococcic infection.
6. Sterilizing local foci of hemolytic streptococcic infection.

*Diseases in which sulfanilamide has been used prophylactically:*

1. Preventing hemolytic streptococcic infection in rheumatic subjects, and in pregnant women who are about to go into labor.

—Cal. and West. Med.

## RADIO BALLYHOO

Tooth pastes and powders, cathartics, anti-acids, cosmetics and patent medicines continue to interrupt our radio musical programs and irritate us as we are listening to the latest transradio news. How long will the American public be so gullible? Just as long as there is money to be made by this kind of propaganda and the radio public will put up with the jarring jargon of these jerry-builders.

Radio advertising was given considerable prominence on the program of the conference of the Association of Food and Drug Officials of the United States recently convened at Hartford. It was advocated that radio advertising copy be filed and subjected to the close scrutiny of food and drug officials on the same basis as newspaper and magazine advertising? Why not? The detrimental effect of radio in broadcasting misleading information is in direct violation of the Food, Drug and Cosmetic Act. As Dr. George R. Cogwill of Yale University said, the general impression given in radio advertising is usually erroneous and if the claims of radio advertisements were included in



the written advertisements or on labels, they would be immediately considered a violation of laws.

Our neighbor, Canada, does not allow its radio audience to be duped and bored with all this ballyhoo. Are we in the United States of any less intelligence? It would be a boon to our nerves and a solace to the various parts of our anatomy to which the appeals are directed if the food and drug administrators would adopt a policy similar to that used by the Council on Pharmacy and Chemistry of the American Medical Association whereby data on food and drug products are collected and reported to the public. Surely all claims amenable to scientific tests, chemical or biological or both, should be supported by the appropriate tests.

—*Jo. Conn. St. Med. Soc.*

### THE WAR

The most interesting thing in the world today is the European War.

What the United States may do is of the utmost importance to us.

We are neutral, but as President Roosevelt has well said, we cannot, and will not, refuse to recognize facts.

On one side we cannot help seeing regimes characterized by bloody purges of political opponents; by broken promises and agreements; by heartless persecution of innocent people on the idiotic ground of racial difference; by an apparent reversion to barbarism, combined with modern scientific methods of destruction; and by a ruthless determination to dominate regardless of means or costs.

On the other side we see England and France.

It is true they have not paid what they owe us, but they have not shot the opposition members of Parliament, or confiscated the property of helpless groups of their own citizens; and they still believe in free thought, free speech, a free press; and they have been good neighbors of ours.

They have some regard for their words and agreements.

They had to fight or submit to force.

Our sympathies and our interests are on the side of England and France.

The American people never were for peace at any price.

War is Hell—but there are things worse than war.

Perhaps one of them is to keep ourselves aloof while others fight and die for things we believe in.

—*Geo. L. Pratt: Jour. Maine Med. Assoc.*

### PHYSICAL THERAPY

The medical profession has succeeded in giving form and substance to education in physical therapy. It has been a long, hard fight, and the job is not finished. The future is bright and as time goes on, I am sure we shall see even greater improvement in professional education and in the training of technicians.

The medical profession has always been able to outline its own policies and decide what is best

for the patient. Physical therapy must be kept free from schemes to make it a layman's specialty in the practice of medicine. The surface plausibility has appealed to legislators and already there is licensure of technicians in several states, thus placing responsibility in a position where it cannot be assumed by virtue of training, and ultimately encouraging independent and unsupervised practice.

What the future of physical therapy will be is a matter of great concern. Certainly it is the American Medical Association and the American Congress of Physical Therapy, rather than political units, smaller groups or individuals, which will be responsible and authoritative center for further progressive changes relating to the education of physicians and technicians.

Finally, I should like to emphasize the following points:

1. Premedical courses in physics and biology should be better adapted to physical medicine.
2. Medical schools should continue the splendid progress already made in the provision of instruction in physical therapy for undergraduates.
3. Wherever possible, hospitals should assign internes and residents service in physical therapy departments.
4. Additional residencies, fellowships and graduate opportunities might well be established.
5. More acceptable schools for physical therapy technicians are needed.
6. The search for a solution to the present shortage of qualified technicians should be guarded to obviate lowering of standards.
7. Licensure of technicians should be opposed as detrimental to the best interests of the patient.

—*Arch. Phys. Therap.*

### OSLER

The name of William Osler—a Canadian by birth—is so enshrined in the history of American medicine that it does not detract from his fame to say that he did not discover any important disease. He had, however, the more valuable gift of seizing the right moment to publish his personal observations on diseases recently described, usually in a less perfect way by others. Thus his name is attached to polycythemia vera, the first description of which was given by Vaquez. Osler himself refused to take credit for the discovery of this disease although his comment on it brought it to the attention of the medical world. Other classic articles on established diseases are those on cerebral palsies in children, on endocarditis and on angina pectoris. There is, however, one condition which Osler was the first to observe, that might be called Osler's disease; yet it is not a clearly defined entity. I refer to what he called the visceral manifestations of erythema exudativum. Erythema exudativum or nodosum had long been known, but it was Osler who called attention to the visceral complications of the disease and to its marked tendency to recur.

—*Shattuck Lecture, N. E. J. Med., Vol. 219, No. 16.*

## THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

1. *The establishment of an agency of federal government under which shall be co-ordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.*

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus and federal agencies. Thus, the United States Public Health Service is in the Federal Security Department; the Maternal and Child Welfare Bureaus in the Department of Labor; the Food and Drugs administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875, the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication, and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

2. *The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.*

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least \$1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease, and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be made available for health purposes; that these funds be administered by the federal health agency mentioned in the first

plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency when that need be for the prevention of disease, for the promotion of health or for the care of the sick.

3. *The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.*

Obviously, if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might be a lessened tendency in many communities to devote the community's funds for the purpose, and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. *The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.*

The medical profession is not static. It wishes to extend preventive medical service to all of the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans, but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation such mechanism may be suitably outlined.

5. *The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.*

The medical profession does not yield to any other group in this country in its desire to extend medical care to all of those unable to provide themselves with medical care. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities, but not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully familiar with the circumstances can determine the number of people who come properly under such classification and that only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community, but that local funds be first utilized and that local agencies determine the nature of the need and con-



trol the expenditure of such funds as may be developed either in the community or by the federal government.

*6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.*

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only 13 counties more than 30 miles removed from a suitable hospital, and that in 8 of those 13 counties there are 5 people per square mile. In the United States today the percentage of hospital beds per 1,000 of population is higher than that of any other country in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years, whereas considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA and by the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed or as to the possible efficient functioning once it was erected. More-

over, there is evidence that in recent years many of the hospitals of the United States known as non-profit voluntary hospitals have had a considerable lack of occupancy due no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again, it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

*7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality*

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\*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shellanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.



**Delayed Diagnosis or Treatment of EARLY SYPHILIS may induce NEUROSYPHILIS**

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*of medical services and to increase their availability.*

In the United States today our sickness and death rates are lower than those of any country in the world. This fact was recognized by the President of the United States when he sent the National Health Program to the Congress for careful study. The President emphasized that a low death rate may not mean much to a man who happens to be dying at the time of tuberculosis. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time, it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials would in any way lower sickness and death rates.

There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live, and that others, surrounded by good facilities, do not have the funds available to secure services. Obviously here again, there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved prepayment plans to cover the costs of hospitalization

and also repayment plans on a cash-indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere available, and that the maintenance of the quality of the service is fundamental in any health program.

*8. Expansion of public health and medical services consistent with the American system of democracy.*

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to

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obtain a little temporary safety deserve neither liberty nor safety."

In these times when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered to changing the nature of medical service are not in effect the first step toward an abandonment of the self-reliance, free will and personal responsibility that must be the basis of a democratic system of government.

### BOOK NOTES

**CANCER OF THE LARYNX:** By Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Honorary Professor of Broncho-Esophagology and Consultant in Broncho-Esophagologic Research, Temple University Medical School, Philadelphia; and Chevalier L. Jackson, A.B., M.D., M.Sc. (Med.), F.A.C.S. Professor of Broncho-Esophagology, Temple University Medical School, Philadelphia. 309 pages with 189 illustrations on 116 figures, and 5 plates in colors, containing 50 illustrations. Philadelphia and London W. B. Saunders Company, 1939. Cloth, \$8.00.

A great deal is known about cancer of the larynx. Likewise there is much that is not known. Until our sum of knowledge regarding this subject is greatly increased, this book must remain the voice of authority. As is characteristic of any work done by the Jacksons, this book is thorough. There is a helpful division of the book into three parts, viz., procedures, general considerations, historical notes. The illustrations are beautiful in accurate detail, particularly those in full color. Operative procedures are given in detail together with post-operative care. There is a fine consideration of radiation procedures as well as surgical. The historical notes are absorbing. There is a detailed bibliography on the topic of cancer of the larynx. The book is to be highly recommended with the observation that none but a master could have done such a fine piece of work.—*M. P. S.*

**SURGERY OF THE EYE:** By Meyer Wiener, M.D., Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri; and Bennett Y. Alvis, M.D., Assistant Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Mo. 445 pages with 396 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$8.50 net.

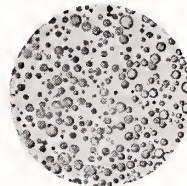
It is seldom indeed that a textbook makes exciting reading. To open this book is to surrender one's self to complete absorption. The clarity of its explanations, the instructive illustrations together make its reading one of the most enjoyable experiences in a number of years of study. There is something on every page of practical value. The authors have approached their subject with the idea of being helpful. This they have done, in a remarkable manner. With a beautiful command of English and a clear style of exposition the authors have truly set up a pattern for other scien-

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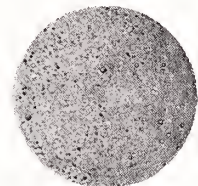
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tific writings. We have often felt that any scientific topic need not be boring, should rather be almost exciting, even to its practitioners. The authors have taken a difficult subject and made it rather easy to comprehend by their masterful shaping.

This is one of the few textbooks that if necessary we would pay many times its regular price to obtain for our library. Any surgeon practicing ophthalmology must surely feel likewise after just a few moments reading in this book. Together with the dictionary and the anatomy this book would appear to us to be an absolute necessity to any eye surgeon.—*M. P. S.*

**DISEASES OF THE SKIN**, by Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S., (Edin.), Professor of Dermatology, University of Kansas, School of Medicine; and Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.), Associate in Dermatology, University of Kansas, School of Medicine. Pp. 1549 including index. 1452 text illustrations and 21 color plates. Cloth. 10th Edition. \$15.00. St. Louis, The C. V. Mosby Co., 1939.

This reviewer enthusiastically recommends this book to dermatologists and all others who are interested in bringing their knowledge of dermatology up to date. It is unquestionably one of the most comprehensive one-volume works on dermatology which has been published. A book of 1,559 pages, it is more complete than the average text on dermatology. There are 1,452 illustrations. Both the clinical photographs and the photomicrographs are of excellent quality, and add to the

practical value of the book. There are 144 pages devoted to fungous diseases, including a chapter on the identification of fungi by Lewis and Hopper. Ninety-five pages are devoted to syphilis. The bibliographies are rather extensive and should be useful for those who wish to study more deeply any dermatologic subject.—*L. M. S.*

**DEAD MAN'S SHOES**, by Evelyn Cameron. Pp. 275. Cloth. \$2.00. Published for The Crime Club, Inc., by Doubleday, Doran & Co., Inc., New York, 1939.

Lovely young women, such as the one who wrote this mystery tale, by their very nature can scarcely hope to outdo Edgar Allen Poe. However, no one, male or female, has yet succeeded in clothing himself in this master's toga. So that mystery tales today must be gauged not with the measuring stick of literature, but rather for their value as simple entertainment for an hour or two.

This book lightly and neatly does a good job of entertaining. There are murders, thunderstorms, eerie monkey-business under the cloak of night. A bit of a romance flurries in a sophisticated atmosphere, omitting passionate grunts and breast heavings under mulberry bushes. In other words, no hot interludes interrupt the flow of blood and mystery. A sage old desert-rat sheriff does as slick a job in solving the mystery as ever did Philo Vance.

The book well accomplishes its aim, that is—entertainment.—*M. P. S.*



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